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The History of NATO TNF Policy: The Role of Studies, Analysis and Exercises Conference Proceedings

Volume 2
Papers and Presentations

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**THE HISTORY OF NATO TNF POLICY:
THE ROLE OF STUDIES, ANALYSIS AND EXERCISES
CONFERENCE PROCEEDINGS**

**Volume 2
Papers and Presentations**

**R. L. Rinne
Sandia National Laboratories
Livermore, California 94551**

ABSTRACT

This conference was organized to study and analyze the role of simulation, analysis, modeling, and exercises in the history of NATO policy. The premise was not that the results of past studies will apply to future policy, but rather that understanding what influenced the decision process—and how—would be of value. The structure of the conference was built around discussion panels. The panels were augmented by a series of papers and presentations focusing on particular TNF events, issues, studies, or exercises. The conference proceedings consist of three volumes. Volume 1 contains the conference introduction, agenda, biographical sketches of principal participants, and analytical summary of the presentations and panels. This volume contains a short introduction and the papers and presentations from the conference. Volume 3 contains selected papers by Brig. Gen. Robert C. Richardson III (Ret.).

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CONFERENCE INTRODUCTION

As events in Poland indicated the beginning of change in Eastern Europe, the question was asked at a U.S./FRG bilateral meeting whether the large DoD/DOE computer-based theater conflict simulation models could be used to examine how NATO's Theater Nuclear Forces (TNF) might evolve. Professor Henry Rowen and Dr. Robert Rinne asked a more fundamental question: had studies, modeling, analysis, and exercises influenced NATO's TNF policy and force structure in the past, and if so, how? Given that today is better characterized by discontinuities than projections of past trend lines, modeling and simulation are likely to be of marginal value. On the other hand, it is worthwhile to develop a better understanding of the past process, of how issues were examined, and of who and what influenced the decision process. The outgrowth was support for this conference on the role of simulation, analysis, modeling, and exercises in the history of NATO policy. Again, the premise is not that the results of past studies will apply to future policy, but rather that understanding what influenced the decision process—and how—would be of value.

It has become clear that the closing decade of the century will be one of profound change in international security structures. We selected the examination of NATO nuclear policy for two fundamental reasons:

1. With the changes in Europe, the collapse of the Soviet Empire, German Unification, and the increasing solidarity and strength of the European Economic Community, TNF policy clearly will undergo significant change in the next few years, and
2. The forty years of European Nuclear Force development provide a contextual continuum where the basic objective stays constant with time but with several changes in policy and force structure that might provide an educational perspective.

Over the past four decades, there has been an almost continuous series of studies addressing the issues related to the feasibility, utility, force structure, and use of theater nuclear weapons. In the 1950s, the early focus was on a doctrine of "massive retaliation." A more flexible attitude was codified in MC14/2 in the mid-50s. The foundations for studies and analysis of the relationships among nuclear weapons, military doctrine, and political policy were developed in Southern California, for strategic systems at RAND, and in the theater force study, VISTA, at Cal. Tech. During the '50s, the military studied the structure for the Pentomic Division and conducted the "Sagebrush" and "Carte Blanche" exercises. With Soviet developments of IRBMs, a strategic bomber force, and the launch of Sputnik, the viability of massive retaliation came into serious question. The 1960s saw a number of studies on force structure and use (e.g., "Oregon Trail") leading to the "flexible response" strategy endorsed in MC14/3 in December 1967. Following the formation of the Nuclear Planning Group in February 1966, a number of studies were sponsored to address TNF issues resulting in a series of papers on "follow-on use." (As early as the spring of 1966, German and British studies were presented to the Nuclear Planning Group.) In the 1970s the emphasis was on modernization. Within the

U.S. defense analysis community, numerous studies were directed toward enhanced radiation warheads. By the late '70s and during the first half of the 1980s, Long-Range Theater Nuclear Forces (LRTNF) were the dominant topic of analysis.

Past projects have investigated TNF modeling, gaming, exercises, and analysis. Generally these have been directed towards determining requirements for improving the techniques to understand TNF issues, with emphasis on developing new hardware or software. This conference examined the relationships from a more historical perspective: what was learned and how it was communicated to those responsible for making decisions; how TNF policy and force structure was determined; and how studies and analysis could have been directed and improved to aid those decisions.

During the three-day conference, we reviewed some aspects of NATO's history related to TNF decisions. Topics included:

- Why and how were decisions made?
- What information was available?
- What was used and what should have been used?
- What information would have been useful?
- How did useful information reach or how could it have reached those who were responsible for making decisions?

The structure of the conference was built around discussion panels focused on particular events or TNF issues. The advantage of the discussion panel approach over individual interviews was the "memory jogging" aspects of bringing together several individuals who had different responsibilities during and perspectives on the same event. It also provided the opportunity to explore the different approaches used by those with similar responsibilities but at different points in time. The panels were ordered roughly by era. However, individuals generally transcend breakdowns into simple time periods, and the panels were not necessarily a review of the papers that preceded them. The panels were directed by an "interviewer," a student of TNF history. The interviewer guided the discussion, capitalizing on the experience of the panel and drawing in the expertise of the audience. The panels were augmented by a series of papers focusing on particular TNF events, issues, studies, or exercises. These papers added an element of depth to the program.

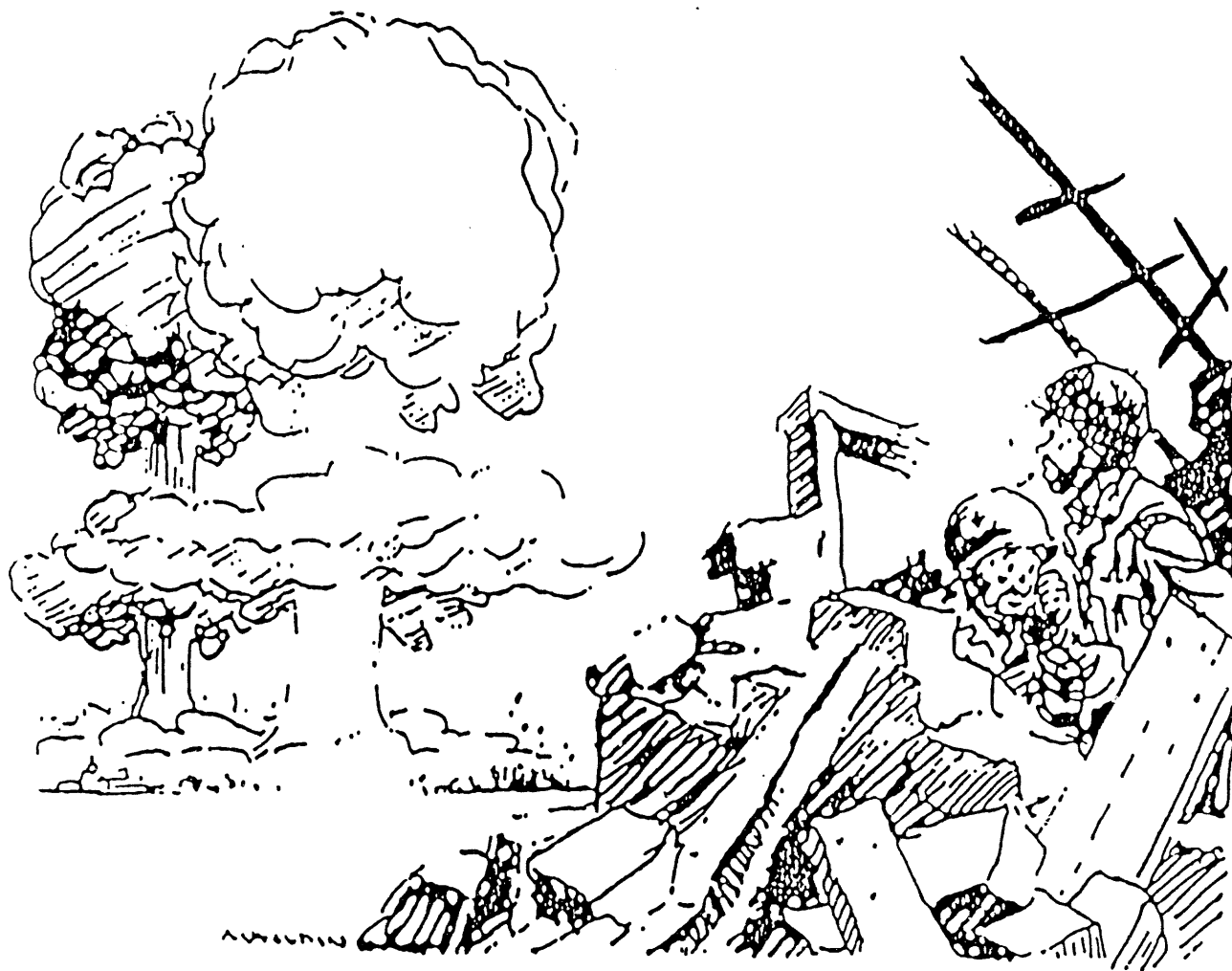
Several formal records of the conference exist. The entire proceedings were videotaped, and copies of the tapes are archived at the conference sponsors' facilities and the DOE national laboratories. This document (three volumes) contains an unclassified summary of the conference by Professor David Yost of the Naval Postgraduate School and most of the papers. Volume 1 contains the introduction, agenda, biographical sketches of participants, and analytical summary. This volume contains a short introduction and the papers from the conference. Volume 3 contains selected papers provided by Brig. Gen. Robert C. Richardson III (Ret.) from his personal files.

THE PENTOMIC EXPERIENCE

CONFERENCE ON HISTORY OF NATO TNF POLICY:
THE ROLE OF THE STUDIES, ANALYSIS & EXERCISES

SEPTEMBER 12, 1990

TED GOLD
HICKS & ASSOCIATES, INC.



Collier's

"Hello—Fox four? I jest called fer a
couple little ol' rounds of artillery.
I didn't ask fer no catastrophes"

Bill Mauldin

THE PENTOMIC EXPERIENCE

- CONTEXT
- OBJECTIVES
- DESCRIPTION
- ASSESSMENT
- LESSONS

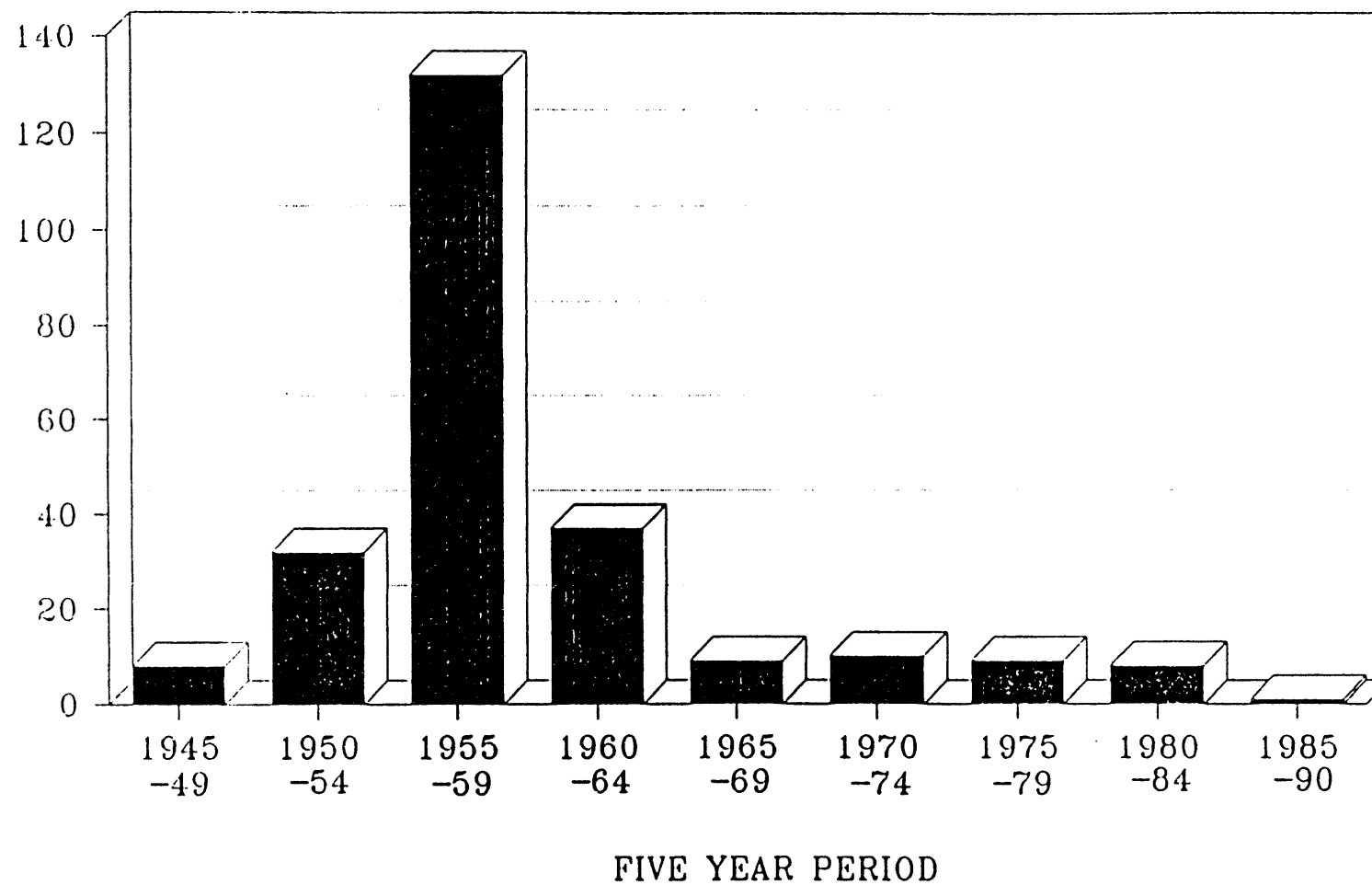
THE PENTOMIC DIVISION: CONTEXT

- PRESIDENT EISENHOWER'S "NEW LOOK" STRATEGY
 - INCREASED RELIANCE ON NUCLEAR WEAPONS
 - AUSTERITY
 - DEEP CUTS TO ARMY
 - ARMY AS TRIPWIRE ROLE IN EUROPE
- SERVICE RIVALRY FOR NUCLEAR SHARE

Perhaps the most pressing problem which the Army faces today is to assess the impact of atomic-bearing missiles and projectiles on the nature of the land battle and, then, to effect a proper adjustment of organization, techniques, equipment, and weapons.

General Maxwell D. Taylor
Chief of Staff

NUMBER OF ARTICLES ON NUCLEAR COMBAT IN MILITARY REVIEW



THE PENTOMIC DIVISION:

STUDIES ON PATH

TO:

- ATOMIC TEST FIELD ARMY (ATFA)
- PENTAGONAL ATOMIC-NON ATOMIC ARMY (PENTANA)
- REORGANIZATION OF CURRENT DIVISIONS PROJECTS (ROCID/ROCAD/ROTAD)

FROM:

- MODERN MOBILE ARMY (MOMAR)
- REORGANIZATION OBJECTIVE ARMY DIVISION (ROAD)

THE PENTOMIC EXPERIENCE

- CONTEXT

- ✓ • OBJECTIVES

- DESCRIPTION

- ASSESSMENT

- LESSONS

THE PENTOMIC DIVISION

- DUAL-CAPABLE, WITH NUCLEAR EMPHASIS
- STRATEGIC MOBILITY IMPORTANT
- SMALLER
- MAJOR ORGANIZATIONAL CHANGES

HOPES FOR THE PENTOMIC DIVISION

18 A sweeping reorganization of our airborne and infantry divisions according to the Pentomic concept has been in progress for some time, and is nearing completion. The term 'Pentomic' refers to the five battle groups which make up the new division, and also reflects its ability to fight under the stringent and fast-changing conditions of atomic warfare. We visualize the battlefield of the future as a area thousands of square miles in extent. We know it will be necessary for combat troops to be widely dispersed in order to minimize the effect of the enemy's tactical atomic weapons, yet they must be capable of swift concentration to provide an overwhelming assault force for the full exploitation of our own tremendous firepower. The Pentomic Division has been carefully tailored to these exacting requirements.

Secretary of the Army Wilber M. Brucker

HOPES FOR THE PENTOMIC DIVISION

The new pentomic infantry division is designed to be a lean, powerful, versatile unit equipped only with weapons and equipment needed in any area in the world where it may be ordered to fight. Elements not needed habitually are pooled at higher echelons. This pooling will cause economy of equipment which is required only intermittently in the division and will help keep it "lean".

19

Its combat power comes from many factors besides its five battle groups, armored battalion, and cavalry squadron. It includes the flexibility of the pentagonal structure multiplied by the increased effectiveness of a modern communications system and greatly increased mobility. With the introduction of atomic firepower capabilities at divisional level with the 8" howitzer and the Honest John rocket, the new division gives a promise of being the most deadly and powerful infantry division ever to join a field army.

Mataxis & Goldberg

THE PENTOMIC EXPERIENCE

- CONTEXT
- OBJECTIVES
- ✓ • DESCRIPTION
- ASSESSMENT
- LESSONS

PENTOMIC DIVISION: DESCRIPTION

- INFANTRY BATTLE GROUP IS BASIC BUILDING BLOCK:
 - FIVE PER DIVISION
 - COMPRISED OF FOUR RIFLE COMPANIES, MORTAR BATTERY, HEADQUARTERS AND SUPPORT

- SEPARATE:
 - ARMOR BATTALION
 - CAVALRY SQUADRON
 - ARTILLERY -- 105 & 155-mm, 8-inch, HONEST JOHN
 - TRANSPORTATION BATTALION

PENTOMIC DIVISION: CHANGES TO EXISTING

- REDUCE DIVISION STRENGTH BY ALMOST 4,000
- "REPLACE" THREE REGIMENTS BY FIVE BATTLE GROUPS
- ELIMINATE INFANTRY BATTALION
- STRENGTHEN RIFLE COMPANY
- DECREASE NUMBER OF ARTILLERY TUBES, BUT ADD ATOMIC DELIVERY MEANS
- ASSIGN POOLED ARMORED PERSONNEL CARRIERS

THE PENTOMIC EXPERIENCE

- CONTEXT

- OBJECTIVES

- DESCRIPTION

- ✓ • ASSESSMENT

- LESSONS

THE PENTOMIC DIVISION

- DESIGNED TO BE DUAL-CAPABLE:
CONVENTIONAL AND NUCLEAR
- ASSESSED/PERCEIVED TO BE NEITHER

I find the concept completely unacceptable intellectually and scientifically. Rather than a hypothesis tentatively verified by controlled experiment and careful inductive reasoning, the

5 Pentana Army appears to be a goal to which certain highly artificial arguments have been added. It is almost impossible to escape the conclusion that the...army...created in this concept was the objective...not the rigorous consequence, of evaluation of the facts.

I shudder every time I think of the stature that Pentana has attained. We think...the solution of every military problem starts with the mission from which develops the concept of operations and finally the organization...No realistic concept of operations has been advanced for Pentana that I know of....conclusions are being reached by a process which if paralleled in the industrial world would bankrupt any organization...

PENTOMIC DIVISION: CRITICISMS

- LACK OF ORGANIZATIONAL FLEXIBILITY
- INADEQUATE CONTROL
- LACK OF CONVENTIONAL FIREPOWER
- LACK OF TACTICAL MOBILITY
- COMMAND GAP
- INCOMPATIBILITY WITH NATO ALLIES

It was apparent early in the game that the Pentana organization is not suitable for combat in a situation involving a high level of atomic war...where the tactical employment of atomic weapons will be on a high level, Pentana is not the answer;...there is a need for an organization of drastically reduced vulnerability and with an improved atomic target acquisition and weapons delivery system.

THE PENTOMIC DIVISION:

STUDIES ON PATH

TO:

- ATOMIC TEST FIELD ARMY (ATFA)
- PENTAGONAL ATOMIC-NON ATOMIC ARMY (PENTANA)
- REORGANIZATION OF CURRENT DIVISIONS PROJECTS
(ROCID/ROCAD/ROTAD)

FROM:

- MODERN MOBILE ARMY (MOMAR)
- REORGANIZATION OBJECTIVE ARMY DIVISION (ROAD)

THE PENTOMIC EXPERIENCE

- CONTEXT
- OBJECTIVES
- DESCRIPTION
- ASSESSMENT
- ✓ • LESSONS

POSSIBLE REASONS FOR FAILURE

- PROBLEM TOO HARD
- WRONG SOLUTION
- PREMATURE SOLUTION
- WEAK IMPLEMENTATION
- OVERAMBITIOUS GOALS

VERY AMBITIOUS GOALS

- HAVE HIGH CONFIDENCE OF PREVAILING ON BATTLEFIELD
- IN EITHER OFFENSIVE OR DEFENSIVE POSTURE
- UNDER CONDITIONS OF FEW OR MANY NUCLEAR WEAPONS USED
- REGARDLESS OF WHICH SIDE USES THEM FIRST

MUCH LESS AMBITIOUS GOALS

ENSURE THAT INTRODUCTION OF NUCLEAR
WEAPONS,

33 EVEN ROUGHLY EQUIVALENT TWO-SIDED
EXCHANGES,

WILL GREATLY INCREASE AGGRESSOR'S
UNCERTAINTY ABOUT ACHIEVING HIS
MILITARY OBJECTIVES

ACTIVITIES THAT SUPPORT "BEING IN THE NUCLEAR BUSINESS"

- ACQUIRING, POSSESSING, AND DEPLOYING
NUCLEAR WEAPONS
- PLANNING TO EMPLOY NUCLEAR WEAPONS
- PREPARING, TRAINING, AND ORGANIZING TO FIGHT
ON THE NUCLEAR BATTLEFIELD

NUCLEAR BATTLEFIELD OPTIONS

- FULLY DUAL-CAPABLE FORCES
- SEPARATE CONVENTIONAL AND NUCLEAR FORCES
- NUCLEAR APPLIQUE OVER CONVENTIONAL FORCES
- IGNORE

Draft
September 6, 1990
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**PROJECT ATTACK AND PROJECT VISTA:
BENCHMARK STUDIES ON THE ROAD TO NATO'S EARLY TNF POLICY**

I. This paper is concerned with those studies and analyses that affected early NATO nuclear policy and force structure.

A. It focuses specifically on two "benchmark" activities:

1. Project VISTA, conducted under the auspices of the California Institute of Technology from April-December 1951,

2. and Project ATTACK, conducted for the Department of the Army under the auspices of the Operations Research Office at Johns Hopkins University from 1952 to 1954.

B. These two studies were chosen less because one can document their direct impact on NATO nuclear policy,

1. and more because they capture the state of thinking about tactical nuclear weapons at a particular point of time.

C. Project VISTA offers an especially important benchmark in this respect.

1. Like the earlier Acheson-Lilienthal report, the Killian and Gaither committee reports of the 1950s, and the Scowcroft and Ikle-Wohlstetter commission reports of the 1980s, VISTA offers a snapshot of the efforts of an important group of experts attempting to come to grips with a critical national security issue.

2. This is not to say that the recommendations of VISTA were adopted in toto, because they obviously were not, or that VISTA was not controversial, because it certainly was. (Interestingly, the same can be said for the other benchmark studies noted above.)

3. Rather, the point is that each of these efforts, even if they did not affect policy directly, permanently changed the intellectual and political climate in which policy is made.

a. In particular, they tend to establish (or redefine) lines of argument within the U.S. security community.

D. Project ATTACK is a rather different kind of benchmark. It is not a pathbreaking study. It is much narrower and more technical than VISTA. It appears to have received no public attention. Project ATTACK is interesting for our purposes because it seems to capture a "nuts-and-bolts" feel for how U.S. (and thereby NATO) theater nuclear policy was evolving prior to MC 48.

II. Background and Context

A. Before discussing either of Project VISTA or Project ATTACK, I think that it is important to understand something of the political and military context against which these studies should be judged.

B. First point: The early 1950s represents a major turning point in American thinking about its defense policy, especially with respect to Western Europe.

1. The general assessment of the Truman administration, and of most of its European counterparts, had previously been that the primary vehicle of Soviet pressure was political and psychological, rather than military, in character.

2. At this same time, that is, in the late 1940s, American war plans called for the use of its relatively small nuclear stockpile against mainly industrial targets in the Soviet Union.

a. Such a strategic bombing campaign might shock the Soviet Union into ceasing its aggression; more likely, it would buy time for American and allied conventional forces to gear up for a World War II-style campaign.

b. The United States adopted such a deterrent policy and military strategy because of the weakness of its local allies, especially in Europe, and because of a concern to protect the long-term viability of its economy and that of other Western nations.

C. Several factors in the late 1940s and early 1950s challenged these assumptions and led the United States to examine the tactical potential of nuclear weapons.

1. First, the United States became convinced of the necessity to provide a militarily-viable local defense of its major overseas and interests.

a. A critical factor in this shift was the outbreak of the Korean war, which suggested that the Soviets (or at least their allies) might no longer be deterred from aggression now that the U.S. nuclear monopoly had been broken.

b. Also, the Truman administration's interest in rearming West Germany was not easily reconciled with NATO military plans that called for a rapid withdrawal, possibly off the continent altogether, of Western armies.

2. Second, inter-service rivalry inclined the Army and Navy to challenge the Air Force's view that strategic bombing would be decisive. Over time, this rivalry led these services to articulate alternative approaches to military strategy and operations.

a. The Army, as we shall see in more detail below, was particularly interested in exploring the development of tactical nuclear weapons.

b. This disagreement was in part over resources, and but also over the kind of war and military operations that the services expected.

c. Description of Air Force-Army differences.

3. Third, several critical technological developments permitted the United States to contemplate the use of nuclear weapons for a much broader range of military missions than strategic bombardment.

a. Most of the publicity focused on the attempt to develop a thermonuclear weapons in the multi-megaton yield range.

b. But at the same time, nuclear weaponeers were able to improve upon the extremely conservative Fat Man design, thereby making much more efficient use of nuclear material and

holding out the prospect for much smaller (in size and yield) atomic weapons.

c. The Truman administration also ordered a major expansion of the Atomic Energy Committee's production facilities to accommodate a greatly expanded nuclear stockpile.

III. The Origins and Purpose of VISTA

A. Project VISTA was by no means the first attempt to come to grips with the possibility of using nuclear weapons in some fashion on the battlefield.

1. On the scientific side, J. Robert Oppenheimer and members of the AEC's General Advisory Committee had been promoting the technical development of such a weapon since 1948.

2. The Joint Committee on Atomic Energy, especially in the person of its chairman, Senator Brian McMahon, had also begun to urge the exploration of this area.

B. Interest had also begun to stir in the Army.

1. General Omar Bradley, Chief of the Joint Chiefs of Staff, had written publicly in October 1949 that "the A-bomb, in its tactical aspect, may well contribute toward a stable equilibrium of forces, since it tends to strengthen a defensive army."

2. Army General James Gavin was a particularly vigorous early advocate of tactical nuclear weapons, especially as the head of a Weapons Systems Evaluation Group (WSEG) project, initiated in March 1949, to study this subject.

C. According to Gavin, the proximate origin of the VISTA project was a trip that he and several scientists took to Korea on behalf of this WSEG exercise in September 1950.

1. In his memoirs, Gavin recalled talking with a harassed forward battalion commander, who said that he had had no tactical air support for several days. "Obviously he needed more fire power -- probably missiles, and preferably nuclear -- immediately responsible to him and under his own control."

2. Upon their return to the United States, the group discussed the possibility of putting together

"a study group of top scientists and military men" to examine the issue of tactical air support of ground operations.

D. At approximately the same time, the Air Force was in the process of establishing a closer relationship with a number of major universities.

1. Most notably, the Air Force and M.I.T. agreed to undertake Project CHARLES (on continental air defense) and to establish the Lincoln Labs.

2. The Air Force also approached Caltech to examine the question of strategic or tactical airpower. After some hesitation, President Lee A. DuBridge agreed to address the latter issue, with emphasis on the ability of tactical air to provide close support of ground operations.

3. In February 1951, Secretary of the Army Frank Pace, Jr., sought to bring such a study under the auspices of his service.

4. After further negotiations, it was agreed that all three services, including the Navy, would serve as sponsors. The contract itself, funded at a level of \$600,000 was ultimately handled by the Army Ordnance Department.

5. The study was conducted from April-December 1951, and its final report was issued in February 1952.

IV. Project VISTA: Content (Part I)

A. Some surprising things emerged from my reading of VISTA.

1. The study a much broader focus than just the issue of the tactical use of nuclear weapons:

- a. The final report defined the object of VISTA as "some of the problems of ground and air tactical warfare, especially as they relate to the defense of Western Europe in the immediate future."

2. Only one of the primary chapters was devoted to nuclear systems; the others considered such topics as Ground Force Operations; Tactical Air Operations; Chemical, Biological and Radiological Warfare; Ordnance; Combat Intelligence; Tactical Electronics; Psychological Warfare; and Training and Morale.

a. Although these chapters did not ignore the issues raised by tactical nuclear weapons discussed, neither were these issues belabored.

2. For the most part, the study had a very short-term focus --

a. the report for the most part confines its analysis to "quick fixes" that could improve NATO's defenses within the next several years, and it should not be read as attempting to make a definitive statement about longer-term (5-10 years) strategy and requirements.

3. The VISTA report concluded that Western Europe could be effectively defended against Soviet attack as early as 1952 -- and that such a defense would not require "an imposing series of great new technological inventions."

a. Further, the report claimed that the implementation of its recommendations would not require an increase in the presently planned U.S. defense budget. In fact, VISTA made the point that "we cannot afford an extravagant or disproportionate program of military preparedness which would endanger the economic structure of this country.

V. Project VISTA: Content (Part II)

A. First, developing the ability to defend Europe on the ground against Soviet aggression was as much a political and psychological exercise as a military one:

1. Need to reassure Europeans that your military plans do not simply mean rehabilitating a corpse.

2. The VISTA report claimed that the United States would be weakening rather than strengthening the political and psychological position of the free nations if it prepared "to counter Soviet aggression solely through the use of strategic air power."

3. The people of Western Europe, exhausted from a recent war, are aghast at the prospect of another, particularly since it may involve attacks against their cities with atomic bombs or gas. To counter the psychological advantages of the USSR, we need to stress the defensive character of our preparations in Western Europe and to lay emphasis on our

intention to use atomic weapons for tactical purposes in the event of Soviet aggression.

B. Second, the report argued that "the successful and efficient use of tactical atomic weapons may well be the decisive factor in the defense of Europe."

1. But much of the VISTA report can be read as advocating a better way to refight a large scale conventional conflict, utilizing where possible the new technologies that had emerged since 1945, rather than as anticipating a tactical and operational revolution in military affairs driven by the application of nuclear weapons to the battlefield.

C. Third, The VISTA report did not believe that it was possible -- at least in the early 1950s -- to conduct war on the cheap by using various types of atomic bombs," or that it was then possible to substitute a versatile atomic capability for expensive conventional armies, navies, and air forces."

1. For example: the report also cautioned that "the NATO Air Force will dependent on conventional weapons until the 1955-1960 period for at least 1955-1960 for at least 95% of its missions, making it mandatory to employ the limited number of available atomic weapons on targets whose destruction will assure very large tactical returns." (p. 114)

2. The report acknowledged that such a substitution might one day be possible, but not enough was then known to make a firm decision.

D. Fourth, the VISTA authors were optimistic about the near-term prospects for the deployment of a wide variety of nuclear systems that would have a wide variety of nuclear applications:

1. There would be reasonably economic and satisfactory designs of implosion warheads with yields ranging from 1 to 50 kilotons.

2. In many cases, low yields would be desirable in order to protect NATO forces "or to make possible effective delivery against heavy defenses." The report stated that "a few kilotons will be adequate for many targets; and it is not economical to compensate for poor delivery accuracy by large atomic bomb yield."

3. Because artillery, rockets and bombers could deliver tens of tons of ordnance with effects

comparable to a nuclear weapon with hundreds of tons TNT equivalent, the report estimated that nuclear yields of less than a kiloton would not prove advantageous for some time to come.

4. The implosion warheads, quite apart from their yield, would be available in a family of weapons of different physical size and weight and, therefore, appropriate to a wide variety of carriers.

E. Fifth, the principal military role for nuclear weapons in the defense of Western Europe would be to attack Soviet airfields in the early stages of the war, thereby gaining air superiority for NATO.

1. VISTA envisaged the tactical use of atomic weapons in "a program of immediate, effective, and nearly simultaneous attacks on large numbers of Soviet air bases beginning as soon as possible after the onset of hostilities."

2. By winning the air superiority battle, NATO would not only dramatically improve its chances on the ground but also undermine the Soviet capability for a nuclear response. (p. 169)

3. The report estimated that the Soviets had been able to construct only 50 or so first-class base installations in the region extended from Poland and East Germany south to Roumania, Bulgaria and Hungary. The report judged that "some hundred" atomic bombs should be dedicated to this mission.

4. To facilitate this nuclear counter-air campaign, the report recommended that a Tactical Atomic Air Force (TAAF) be organized by the USAF with a priority equivalent to that of the Strategic Air Command.

F. Sixth, the second priority during the air superiority battle was to be assigned to interdiction targets -- attacks on enemy forward supply depots, POL dumps, and high command headquarters.

1. It was also thought that a Russian campaign to the west in northern Europe would be particularly vulnerable to interference with rail transportation from the USSR proper, through the Eastern European satellite countries, to the battlefield.

2. However, at the present, the VISTA report estimated that NATO did not have sufficient numbers of nuclear weapons to attack the large number of Soviet transportation targets (ports, rail

junctions, bridges, canals, tunnels, and marshalling yards).

a. There were some targets, such as supplies of POL, for which nuclear strikes would be justified or required, but until the supply of atomic bombs increased, the number of such targets were in the tens rather than the hundreds.

4. Also, "for those rail junctions, marshalling yards and other targets which may be located in cities where friendly support of the population is important to preserve, there are disadvantages to atomic weapons."

G. Seventh, the VISTA report concluded that the bulk of the close support mission could be carried by conventional munitions, but that nuclear weapons could play some role in directly targeting Soviet ground forces.

1. At the time that the VISTA report was published, this nuclear support could have theoretically been accomplished by means of the 280-mm "atomic cannon,"

a. However, the report noted the severe limitations associated with the atomic cannon: its lack of mobility and range, combined with the very heavy use of fissionable material demanded by the warhead's design.

2. A "satisfactory capability" for ground-to-ground delivery of nuclear weapons was projected for 1954, when the nuclear-capable Corporal (80 mile range) and Hermes (80-150 mile range) rockets were scheduled to be deployed.

a. In the interim, the effective and precise delivery of nuclear weapons by tactical aircraft would have to suffice,

3. The purpose of using scarce nuclear assets against Soviet ground forces was to "deny an adversary his most important maneuver -- concentration on or near the battlefield." (p. 183)

4. This target system, more than any other, will prove profitable in the measure in which atomic operations are integrally conceived and planned with other military operations.

a. On the one hand, we must attempt to force the enemy to present concentrations of troops, vulnerable to atomic attack.

b. On the other hand, we must be prepared to exploit the consequences, both of casualties inflicted by an atomic attack, and by the enemy's reluctance to concentrate in the face of our atomic potential.

5. In the early stages of a war, two types of troop targets could be expected.

a. First, fairly large assembly areas might be found, perhaps even before the initiation of war.

1. "If these targets can be properly evaluated in time, they may warrant the use of several rather large yield atomic weapons, perhaps even on a pre-planned basis (i.e., planned before the war)."

b. The second target would be created by various barriers, such as river crossings and road blocks.

1. If these barriers created battalion or regimental-size concentrations, small yield nuclear weapons would be appropriately used.

2. In either case, air-delivered weapons would be required -- given the high degree of fluidity on the battlefield during this early phase, ground-to-ground delivery systems, especially those of short range, could not be counted on.

3. In the later phase of the war, NATO position defenses would themselves force the enemy to concentrate, thus creating potentially lucrative atomic targets.

H. Ninth, the VISTA report also briefly considered how nuclear weapons might be used to aid a NATO offensive, presumably a counter-attack after the initial Soviet assault had been halted.

1. "The distinctive use of atomic weapons in the attack will be for pre-attack preparation bombardment. Here the target is chosen not by the number of enemy to be destroyed, but by the requirements of our plan of attack."

2. "Atomic weapons are instantaneous and, compared with artillery, give minimum warning that an attack is underway and so give minimum time for reaction. Exploitation of the results of the atomic explosion, which should be prominent in all uses, will be dominant in this phase."

I. Finally, Vista considered the long-range effect of nuclear weapons on military operations

1. The growth of Soviet nuclear capabilities meant that most of the port facilities of Western Europe could be rapidly destroyed after the outbreak of war.

a. This meant that NATO's naval forces should "build up [their] amphibious capabilities; not so much for large-scale landings in the face of determined resistance, but rather for relatively small, widely dispersed, readily shifted landings of men and materiel."

2. The deployment of enemy nuclear weapons (and other mass-destruction media) would affect the space factors in a division layout, as well as perhaps also "the interrelation of the defensive weapons systems." (p. 89)

3. The ability of armed reconnaissance planes to carry small nuclear weapons, which the report projected would occur within 5 to 10 years, meant that troop movement movements would be severely restricted.

a. "In the field it is questionable if troops could live in deep enough holes and disperse enough to provide protection and still be able to fight."

b. Within that same period, it would not be possible to operate an airfield with even as few as 10 aircraft dispersed over it without inviting destruction. "There must be major changes in methods of operating airbases if an airforce is to survive in the face of an atomic attack."

4. It was noted that the presence of nuclear weapons might have the virtual effect of forcing the enemy to limit his concentration while attacking.

a. By the same token, the ability of NATO to use mine fields and screening actions against Soviet forces might result in sufficient delay and channelization to create a nuclear weapon target.

5. The report, extrapolating from Office of Scientific Research and Development (OSRD) data, concluded that a 20-kiloton nuclear weapons, detonated at 2000 feet, would actuate the majority of U.S. mines within a radius of one mile.

VI. Project ATTACK

VII. Conclusions and Assessment: The following general points will be made and expanded upon.

A. The two studies demonstrate that the military utility of TNF (at least as defined in terms of nuclear targeting and operations) came to be understood very early in the process.

B. The two studies were less able to come to grips with the overall military impact of TNF on modern warfare -- especially in two-sided nuclear operations.

C. The two studies reflect very little concern with the political dimension of planning for and using TNF in Europe.

LIVERMORE TNF CONFERENCE

SUMMARY OF REMARKS BY R. C. RICHARDSON

This is a Summary Paper in two parts. Part I explains what the Basic TNF Problem appears to be and how it came about. Part II discusses examples of the type of corrective measures that should have been - and still should be - taken.

PART I

NATO'S BASIC TNF PROBLEM

The use of atomic weapons in NATO defense planning seems to be an issue of special interest to writers and historians. It is also an issue fraught with confusion for the official record of actions taken does not tell the whole story.

Having been involved in the development and processing of defense plans in the NATO Standing Group and in SHAPE Headquarters, in the early 1950s, and with the NATO Council from 1961 to 1964, I have been queried, interviewed and debriefed on this issue more frequently than on any other. Both writers and historians seem to be having a hard time getting a clear and agreed position on this subject and for good reasons. Reasons which are not generally understood although important not only to history but also to future U.S. security planning.

The confusion over tactical nuclear planning in NATO can be traced to the early 1950s when the Alliance was faced with the need to develop and present a credible defense posture for its European members while being unable to field classic force levels anywhere near comparable to those of the Warsaw Pact nations that threatened them.

In simple terms, the European nations looked to NATO to provide for the security of their people. The classic criteria of ability to defend was the military balance in conventional forces. Coming straight out of WW II, every citizen knew that massive quantitative inferiority in the conventional order of battle could not be offset by collective actions, morale, geography, or merely better planning and leadership. So, either NATO's military planners had to find a way to credibly protect its European member nations with the force levels they were able to provide, or their Generals would, sooner or later, tell their political masters that, while a good idea, NATO would not work. The Alliance would then start to unravel as member governments sought other solutions to their national security.

Much of the recorded history of the early years of NATO planning involved efforts to solve the imbalance problem. Plans, force goals, economic studies of defense financing, and aid programs all sought to do this. After many trials and failures,

which are well documented, the NATO planning system finally turned to the logical, historical solution to military imbalance. This was simply to find and exploit, if possible, a technological advance that, if properly used, could credibly offset numerical inferiority.

This was hardly a new idea. By the early 1950s the potential availability and area destruction capacity of atomic firepower suggested that a resort to tactical atomic weapons might meet this requirement. This was especially true since these had not been considered in NATO's initial defense force requirement plans.

While exploiting new technologies to reduce or modify force requirements has ample precedent it has generally taken place in combat rather than in peacetime. The military classically starts new wars with whatever worked in the last one merely adding any new weapons to existing capabilities and forces. They then find out the hard way that the introduction of some new weapons requires major changes in basic areas such as combat doctrine, deployments, organizations and even strategies.

What was new in the NATO case was that planning in peacetime to offset Warsaw Pact superiority by using nuclear weapons required that the changes associated with this be defined, accepted and implemented in peacetime - that is without the benefit of experience in war. This has rarely been done since changes of this type, that challenge past experience in combat, service roles and missions, classic force levels, traditions, budgets, established doctrine or principles and other tenets dearly held by the military or politicians, are inevitably resisted no matter how obvious the requirement might be. This is due to the fact that they rattle too many bureaucratic or other vested interest cages. In the case of NATO's resort to Tactical Nuclear Defenses resistance was especially vitriolic since a large share of service budgets depended upon NATO force requirements.

This problem exists today as it did in the 1950s. In the early 1980s when we would not, or could not, pay to match growing Soviet strategic nuclear (First Strike) capabilities in ICBMs and SLBMs, High Frontier and President Reagan proposed new technology be exploited to obsolete this superiority by building effective missile defenses (SDI). This would have required abandoning the MAD method of doing the deterrent business. The resistance this has encountered is well known. While we are now willing to rationalize a classic force imbalance in Iraq by crediting Western precision munitions, air superiority and standoff firepower with closing the gap, these technological advantages do not threaten traditional concepts and doctrines as yet. Were any of us, however, to suggest that space based weapons might make conventional deployments such as those to the Persian Gulf unnecessary, you can be assured that these would be just as fiercely opposed as was SDI regardless of technical feasibility.

The Basic NATO TNF Problem

In retrospect, and in light of the above, the basic NATO TNF situation is quite simple. The confusion attendant on it over the years is understandable, and the difficulty writers and historians have had in documenting all this merely from recorded decisions and actions is explainable.

SACEUR and his planners, having tried to solve the gap problem without threatening conventional -- WW II - concepts and wisdom found themselves caught between a "rock and a hard place" following the Lisbon Conference of February 1952. Either they came up with a credible rationalization that the 1957 force goals, then deemed the best that NATO could afford at that time, would provide the security NATO promised its members in Europe, or they faced the likelihood that the Alliance would begin to unravel. Saving the Alliance by exploiting, if possible, nuclear weapons was clearly the lesser evil. This being the case, a capability planning cycle* was initiated by General Gruenther in 1953. This became known as the "New Approach" and produced the SACEUR's 1957 Capability Plan submitted to the Standing Group as (SHAPE 330/54) in 1954.

The key conclusion of the 1957 Capabilities Plan was that NATO forces of the size envisioned in the 1957 Force Goals could effectively defend against far larger Warsaw Pact Forces if tactical atomic weapons were used. For this to be true, however, there were two (2) vital provisos:

FIRST, that the appropriate nuclear weaponry would be in the hands of the troops and available for use from the onset, and

SECOND, that NATO forces for use in atomic land/air warfare (defense operations) be reorganized, redeployed and repostured so as to be able to survive and fight effectively in the new atomic environment.

The plan credited the Soviets with being able to achieve roughly equivalent TNF capabilities and emphasized that unless and until these two provisos were met the basic conclusion that smaller NATO forces (1957 goals) could hold against, let alone defeat, the superior Soviet Mass would not be valid.

In practice (historically) two things happened. First, the Basic Conclusion was generally accepted and the European leaders and people were given to understand that with an atomic strategy from the onset their nations could be credibly protected at the 1957 force levels envisioned. This solved the NATO credibility problem. Second, the provisos that made this true were never fully implemented which, in effect, negated the basic conclusion while leaving the impression the security problem was solved.

* See Part II for definition of a Capability Cycle.

The first proviso, availability of suitable atomic weapons in the hands of troops and authority to use these from the onset, was understood and to some extent acted upon in the second half of the 1950s. Thereafter, much of what was accomplished in this direction was overtly or surreptitiously voided during the McNamara era. All this is well documented in the historical records.

The second proviso, reposturing of the forces to survive and fight effectively in an atomic environment, was never generally understood, fiercely resisted by many in the services who did understand it as well as by anti-nuclear politicians. As a result it remains - to this day - essentially unimplemented.

This second proviso is the real problem in any consideration of use of tactical atomic weapons in NATO or anywhere else. Ignoring the need to reposture the forces to survive against the area and fallout effects of atomic weapons is equivalent to sending cavalry in close order charges against machine guns. For all practical purposes, this is what today's war plans call for with nuclear firepower ordered in to the rescue when the cavalry formations have been wiped out!

Upon NATO Council approval of the strategy of atomic response from the onset in 1956 a few, obvious measures were taken to adjust the forces for land/air atomic warfare. Studies and exercises were undertaken, requirements for STOL and VSTOL fighters to make SACEUR's Air Forces survivable were stated, and concentrations like the Rhine General Depot were dispersed. Papers were written at the time by the SHAPE staff outlining what some of the requirements were. (MC48/12?).

Unfortunately the exact nature of the optimum force posture for land air atomic survival has never been defined or agreed upon. While studied during the New Approach effort sufficiently to determine that the basic conclusion and its provisos were valid much work remained to be done to identify and implement all the changes that the atomic battlefield called for. It was obvious, however, that you could not concentrate military forces in formations, or on bases, easily targeted and destroyed by one relatively inaccurate atomic weapon without crossing the "threshold of tolerable loss" discussed in Part II.

The findings and changes that seemed logical from earlier studies (Beaufre Group) and those made at SHAPE in connection with the 1957 Plan (MC48 series) were set forth in Enclosure J to the 1957 Capability Plan. In retrospect this was probably a mistake for few staff reviewers and even fewer senior people bother to even read, let alone understand, the Enclosures of most documents they approve.

The notes I retained on the drafting of Enclosure J, done mostly by General Goodpaster as I recall, indicate that the

wording we used in the 1957 Capability Plan on the posture issue covered the following 5 points.

1. The expenditure of atomic weapons as envisioned in this plan will drastically change the conditions of war. The posture of Allied Forces (organization, tactics, dispositions, etc.) as it exists today cannot be reconciled with the capabilities for destruction of such weapons.

2. Since this is a plan for war in which atomic missiles will be used, essential revisions in tactics, dispositions and organization had to be considered. Some changes are evident, in other instances the direction of change is apparent. In a few cases only the results to be achieved can now be defined.

3. This enclosure is basic to the conclusions of the Plan. It attempts a first assessment of the adjustments dictated by the atomic threat. It summarizes the findings of extensive studies which lead to the conclusion that it is possible to adopt a posture for the planning period under consideration, which when combined with atomic superiority and other lesser advantages, might offset the advantage of larger forces and initiative possessed by the Soviet.

4. Provided the Allies enter hostilities with a superior posture for atomic war under stockpile positions considered reasonable, there appears to be a high probability for a successful outcome of the initial atomic exchange in Allied Command Europe. The capability conclusions of this plan are almost wholly dependent on this proviso.

5. The findings herein are based upon numerous studies by the SHAPE planners as well as other agencies. Principal among the latter are: The Inter-Allied Tactical Studies Group (Beaufre Group); The USAF RAND Corporation; the SHAPE CP-Presentations and discussions, etc. An attempt has been made to assess the atomic survival problem herein comprehensively enough for detailed staff review while avoiding the inclusion of the lengthy calculations concerned.

What Subsequently Happened

During the decade 1956 to 1966, when the 1956 Tactical Nuclear Response From the Onset strategy prevailed, instead of the expected and logical effort to define, refine, and implement the second requirement, there developed a growing and sustained effort in the U.S. to ignore the SHAPE findings and make believe that all atomic firepower did was to increase the effectiveness of the artillery and bombs. In fact, there was a deliberate effort in the Services, among those who understood the proposal

and its consequences, to prevent the dissemination, study and consideration of these.

In addition to Service resistance to the force posture changes required, and force reductions made possible, by tactical atomic operations there also developed an unholy alliance between military opponents of these and the growing group of U.S. anti-nuclear politicians and disarmers to block any serious consideration of the requirements and potential advantages of tactical nuclear defenses.

While the Chiefs and their military bureaucrats recognized that acceptance of the fact that validation of the 1957 plan's finding - that Europe could be defended with less forces than the classic threat implied - was a major threat to their budgets in Congress, the anti-atomic activists feared that recognition of the potential advantages in costs and defense effectiveness of using tactical atomic weapons in limited conflict situation could increase the prospects of their use in practice. Since their goal was to identify every use of atomic firepower as suicidal or a worst case Hiroshima, any notion it might be useful and comparatively safe had to be sabotaged regardless of the consequences to U.S. security or defense costs. This attitude surfaced in spades after 1961 when the McNamara regime actually tried to pull TNWs out of NATO in Europe.

The recorded results of the above conflict between military logic, historical experience, and vested interests led to a series of dubious compromises starting with the NATO Pause concept in the late 1950s wherein SACEUR catered to the anti-nuclear attitudes by suggesting he might delay the use of atomic weapons to give the Soviets the opportunity to "consider the consequences of their act of aggression!" and culminated in the strategy of Flexible Response adopted in 1966.

The U.S., having blocked posture change proposals that would have inhibited effective conventional operations, the idea of "dual capable forces" was followed by that of Flexible Response in NATO. This concept had the advantage of providing the military the best of all worlds - defense of, and funding for, all conventional requirements while also enjoying the availability of nuclear weapons to bail out NATO but without their benefits security or economy wise. This, in turn, led to efforts to build up conventional force levels to reduce the Gap that continued to plague the credibility of NATO's defenses. It also allowed the Services to hang on to classic conventional mass and rationalize not changing the WW II doctrines, concepts, force deployments and concentrations, and large budgets that went with these.

By 1966, when Flexible Response was accepted, everyone had their cake and could also eat it except the real world of security. NATO was, and still is, "living a lie" as a credible defense. SACEUR has always admitted he lacks the forces to defeat a Warsaw Pact conventional attack without early resort to

atomic weapons. At the same time he has never had the "Posture" or weapon deployment he needed to effectively fight an atomic land-air battle. Presumably, if he resorted to atomic response, as planned, he would have to change to meet the two basic needs called for in the 1957 Plan -- weapons in hands of troops and a survivable posture -- and this while in the middle of the battle. No one has ever figured out just how you could go about doing this successfully!

So, the bottom line is that NATO has been surviving in Europe on deterrence alone while paying for defense forces that make no sense unless one is willing to assume both sides would accept defeat in Europe in preference to using atomic weapons notwithstanding political commitments and military plans to the contrary.

This is the sorry situation we have so far "lucked out" with in NATO and that is, hopefully now overtaken by Perestroika events as far as Europe is concerned. It explains the confusions historians have always had with the TNF issue. It also explains why it is still a current problem and not just of historical significance.

While Perestroika may have bailed out the incredibility of Flexible Response, it has done nothing to eliminate atomic weapons from earth or future warfare. Proliferation increases. The possible use of atomic weapons in the Middle East, India or elsewhere, still exists, and the lessons with respect to how to fight in such an environment along with its potential advantages and disadvantages have as yet to be learned.

Now that the findings on land air tactical nuclear warfare, and its uses and potential independently of strategic nuclear warfare, can be studied with must less impact on U.S. vested service budget interests (e.g. forces in Europe) it is high time this was done. Third world countries are likely to do this eventually and U.S. failure to do so - see no evil, hear no evil, speak no evil - could teach us the hard way what a properly equipped and posture small tactical nuclear force may well be able to do to massive conventional deployments, such as that taking place in the Persian Gulf.

For the above point of view, the findings of Conferences such as this one could do more than to re-hash history.

SUMMARY OF REMARKS BY R.C. RICHARDSON

PART II

PRINCIPAL POSTURE FINDINGS

As explained in Part I the NATO Tactical nuclear problem has always been the incompatibility between the prevalent force levels, postures and doctrines, on the one hand, and the stated and perceived ability to protect Europe by resorting to tactical nuclear weapons.

For the past few decades NATO commanders have warned that they will have to have recourse to nuclear response either if the Soviet use these weapons, or if they are to arrest an attack by admittedly superior Warsaw Pact Forces. Notwithstanding this all NATO forces have been primarily justified, equipped, deployed, trained, and postured for WW II type conventional warfare.

In other words, notwithstanding studies and exercises that raise serious questions as to the ability of classic conventional forces surviving and fighting in an atomic environment little or nothing has been done to correct this even in situations wherein resort to atomic weapons is estimated to be near inevitable. This defies common sense but is a historical fact. It also explains much of the confusion associated with NATO force requirements and INF planning.

An objective examination of this situation suggests that there are two very important questions at stake.

The first of these is: What is the best definable organization, deployment, strategy and doctrine for land/air atomic warfare? What does it take to optimize the prospects of military forces surviving and carrying out their missions if atomic weapons are used by both sides?

The second question that emerges from answers to the first, above, is: What, if anything, is the use of atomic weapons likely to change in the classic consequences and historical outcome of various levels of warfare? e.g. Will wars be shorter? Will the worth of forces in being versus reserves be different? Will national mobilization base differences be meaningful in measuring relative national warfighting capabilities? Will casualties necessarily be greater? Will the nature or advantages of defensive versus offensive operations change? Etc...Etc..

Interestingly enough, it is findings in this second question area that determined that given atomic weapons relative strength in numbers of men and conventional weapon systems lose their importance to the outcome in a frontier defense situation. This, of course, assuming a minimum satisfactory answer to the first question - survivability of the atomic equipped defensive forces.

Nature of Changes Required

The SHAPE Capability Plan did not attempt to determine the exact nature of all the changes required in the posture of the forces in order to optimize their capability to survive and fight effectively in an atomic environment. What it did say is that:

"since this is a plan for war in which atomic systems will be used, essential revisions in tactics, dispositions and organization have to be considered. Some changes are evident, in other cases the direction of change is apparent. In a few cases only the results to be achieved can be defined."

The basic problem is survival in an atomic land air battle environment. Certain obvious measures can be defined from a common sense analysis of the characteristics of atomic weapons. e.g. Area destructive ability, fallout effects, and hence, the ability to offset battlefield intelligence by increasing yields. If measures can be defined and taken to accommodate to these then certain conclusions can also be drawn with regards the nature and likely outcome of nuclear land-air warfare. Assuming these are as the SHAPE and other studies suggested, they could have a dramatic impact on the cost and outcome of modern wars.

An understanding of the NATO planning process involved, and of why on the one hand it produced basic capability conclusion while on the other hand it does not define the exact changes required to achieve these, but only call for their study, requires that one start from a common understanding of three basic elements of military planning: (1) The defense equation, (2) The three basic types of Plans, and (3) The Concept of Tolerable Loss. A brief reminder on these is therefore an essential introduction to any discussion of this issue and of the findings of the NATO 1957 Capability Plan (SH 330/54) that first raised it.

The Defense Equation (CHART A)

In a simple model requirements to defend against any given fixed threat can be divided into three basic categories:

1. What we do: The Job, Task, or Mission assigned
2. How we do it: The doctrine, tactics, -methods we use.
3. What we do it with: the resources available to do it in the manner adopted.

Each of these categories are obviously variable. The size and/or nature of the job can be changed. e.g. defend forward, hold on the Rhine, defeat the aggressor, counter attack, etc.

The Method we use, how we go about doing the defense business can be varied. With Conventional forces, with atomic weapons, with mobile formation, by trench warfare, by interdiction, by counter force operations, etc.. etc., and

The Resources are variable. They can be what you have at the time, what you think you need to do the job in the way selected, or a fixed given depending on economics or politics.

While this may sound elementary, if we now look at the types of plans in light of these categories we find the difference between these plans turns out to be which of the categories the planners accept to be fixed factors and which they have authority to vary.

The Types of Plans (CHART B)

Here again we have three basic types of military plans.

Requirements Plans
Emergency Plans
Capability Plans

In simple terms, Requirements plans accept the military tasks as givens. These are political or obvious national security dictated needs. e.g. Defend forward in Europe, Protect Sea Lines of Communications, etc. etc. Requirement plans also, though less consciously, accept the method to be used as a given. Normally it is the one learned in the last military experience, taught in schools, defined by doctrine and manuals, and/or politically given. This leave the resources as the only true variable. The basic problem becomes to determine what it will take in men, weapons, or even just defense dollars to do a given job in an established way.

Again in simple terms Emergency Plans consider the "method" of coping with the emergency when it arises as fixed for the same reasons as above. Obviously the resources are also fixed factors in these for they are whatever you have on hand at the time the emergency arises. This being the case the only variable is the job or tasks. How well and with what probability of success or failure can I do the defined task in the accepted way with the resources I have?

Capability Planning an entirely different matter. This is less frequently used and even less well understood. It is also generally resisted by military planners. The reason here is that the variable factor in capability plans is the Method adopted to do a given job with fixed, given, resources. This planning exercise involves looking for new ways of doing the business at less cost or with less resources. Obviously it has to be rationalized on some new capability, generally technological.

A less obvious and often overlooked aspect of Capability Planning is that the given resources will almost always have to be changed in some ways, though not necessarily in quantity or cost, to validate the capability finding. In brief it is invariably a two-step process. The stated problem is: "Is there a way we can do thus and so with so much money, (existing force levels) etc.?" The answer then becomes : "yes, or maybe, provided

you exploit the new technology to do the job differently". Implies in this response is, "But you then have to readjust your resources to optimize them for the new way you plan to use these". The plan itself normally does not specify just what the adjustment must be in detail, that comes after studies of the consequences of the use of the new technologies involved lead to its acceptance or rejection.

The Concept of Tolerable Loss (CHART C)

In the case of tactical atomic warfare, a major factor was survivability or what we called at the time the concept of Tolerable Loss. This turned out to be an important factor in the SHAPE planning because what we are really talking about under the term of changes in force posture are the changes in survival measures dictated by atomic effects.

Again tolerable loss is a very simple concept which in conventional war planning is normally not a factor hence has been given little consideration in the past. The easiest way to picture this concept is to look at the consequences of two types of attacks on, say, an airbase.

If NATO had 100 air bases and the Soviets completely destroyed 50 in a first strike what would be SACEUR's residual sortie rate? The answer is obviously 50%. All those wings on bases not hit would operate as planned and no sorties would come out of those totally destroyed.

If NATO has 100 bases and 50% (theoretically) of each was destroyed with TNW,s but everything needed for the other half of the units thereon to fly what would be the residual sortie rate? While the theoretical answer is 50% the real world answer is probably zero. Why, because the other half would be so involved in rescue, reorganization, evacuation, demoralization, etc. that the remaining units while physically able to fly would likely be ineffective.

This was deemed an important new factor in force concentrations subjected to atomic attack. It quickly leads to the conclusion that the loss/size/time factor in atomic situation can be decisive on effectiveness and, hence, that the larger the concentration the greater the probability that the tolerable loss threshold will be crossed reducing effectiveness to zero regardless of actual losses incurred.

An understanding of the tolerable loss factor, came as a result of the RAND studies of tactical air effort made for the 1957 Plan under Dr. Igor Anzoff, (and actually of Field Marshall Montgomery's comments on listening to their briefings to the effect that calculations showing one side or the other losing 100% of its forces in less than 30 days was "utter balderdash!")

After extensive debate among the planners and others it dawned on us that we were dealing with an additional variable in

our planning equation as indicated on the chart. The posture of the Forces, e.g. Force survivability in the face of atomic attack. Once this thought was understood it became easy to see why the Ridgway plans had come up with more forces instead of less in their requirement efforts which obviously ignored the posture factor, e.g. whenever your units were hit with an atomic device you lost whole units or bases, therefore, quite logically requirement plans called for whole unit replacements.

This also explained the largely ignored and ridiculed findings of the Beaufre Group papers. While they did not identify the problem as failure to consider posture a variable, their force deployments to survive were so incompatible with all existing doctrine and combat operating requirements as to make no sense to most military readers. Without realizing it they had actually taken a first cut at trying to solve the survivability posture problem.

Given the breakthrough on posture, the SHAPE effort could go two ways. It could have backed off and proposed that the posture problem be studied in detail and solved before assessing the capability of the 1957 force level to defend Europe. Obviously this would have taken forever since it would have been equivalent to trying to re-write Caulswitz. The alternative was to proceed with the capability assessment on the basis of identifying the obvious types of survival measures and, hence, changes in posture required and drawing conclusions from these.

While the above choice can now be stated in retrospect, it was not presented in black and white at the time. Instead obvious posture changes were accepted and their validation or refinement left for study if and when the plan and its basic concept, Nuclear Response from the onset, was approved. While this was then the only way to go it failed to consider the likelihood that the posture problems and their importance to the findings would not be understood by those reviewing the plan, or that their study and implementation would actually be resisted for parochial reasons.

The outcome of the above situation at the time was that Enclosure J to the SHAPE plan was written to explain the problem, what broad survivability measures would be key to the conclusions, and suggest why it needed a major further study effort. The basis for the conclusions on Capability at the time, and some of the fallout findings on the impact of tactical atomic defenses on the outcome of operations were listed the principal ones being those summarized below. (Note: These must be viewed as logical deductions NOT as definitive findings. This is important for, as in the case of SDI where the "strawman architecture" in the 1982 High Frontier Capability study was frequently criticized as if it was a final SDI deployment plan, the SHAPE 330/54 posture findings were never assumed to be definitive solutions although attacked as such.)

Characteristics of New Strategy

The 1956 NATO strategy that emanated from SH 330/54 had the following characteristics: First of all, NATO was a part of one overall war effort and U.S. strategic forces, forces in the Far East, everybody, was in it. Second, the SHAPE mission was the shield role, to defend Europe. There was no notion of marching forward to liberate anybody, satellites or Russia, no offensive task only a defensive task - keep the Soviets out of Western Europe pending the outcome of the strategic nuclear effort. That was important because in later force requirements studies, offensive aspirations creep in again and again and add to force requirements. Remember our goal was to solve the NATO defense problem with minimum forces.

We concluded that atomic wars had to be of limited duration for the simple reason that if you are going to expend anywhere near the nuclear firepower they envision, then obviously the war is not going to last very long. In an atomic conflict there will be no time for holding or build-up phases. That makes the big difference in force requirements. Atomic wars move right into the decisive phase from the onset as a result of the fact that with nuclear weapons both sides can have all the destructive power they need before the fight starts. All they have to do after D-Day is to deliver it as quickly and effectively as they can, and the outcome will be decided by this exchange - win or lose. It is not like in conventional wars where one has both the need and time to build munitions and delivery means during the process of the war.

Another important finding was that firepower had the decisive role instead of relative mass of forces at the point of engagement, mass was to henceforth be measured in kilotons not force levels, killing instead of capture was the end objective of the battle, and the advantage switched as a result to the defender in a fixed front situation.

The advantage to the defender on land results from the fact that in an atomic firepower situation the side that has to get up, move, expose itself, and concentrate to cross the defense's barrier, that is the offensive force, is twice as vulnerable as the side that can stay dispersed, hidden, and dug in, that is the defensive force. This being true, a random atomic shot fired into either formation is going to do much more damage to the offense than to the defense. As a result, conquest becomes near impossible and a local stalemate quickly ensues. Thus under a strategy of atomic response from the onset, firepower, not manpower has the decisive role. The manpower requirements are limited to those needed to force concentrations on the attacker, identify these battlefield surveillance and deliver the nuclear firepower. Maneuver is out and so are post D-Day reinforcements for they would get there too late, and the port and airfield concentrations they would present on arrival are too vulnerable. Forces in being and deployed will decide the outcome and that is where the savings come in.

In past conventional battles the forces required must be equal or greater than those of the enemy at all points of engagement. These were the force levels NATO could not meet. In an atomic defense the minimum forces required are those needed to service the firepower and identify and form up targets. The Lisbon goals were more than sufficient for this. Depending upon how large yield weapons we were willing to use, we could raise or lower manpower requirements as much as we wanted to in keeping with the incidental damage we were willing to accept. If you are willing to use enough yield weapons you can create a nuclear barrier that would call for few if any people to form up or identify targets. If you want to destroy Soviet military forces on the offensive without damaging the trees in the vicinity, obviously you have to have a lot of conventional troops to form up and identify these targets, pinpoint them, and hit them with selective firepower - Davy Crockett's, Honest John's, or 155 and 105 atomic shells - or plain conventional weapons as appropriate.

Thus the 1956 atomic strategy permitted NATO to come up with achievable and credible force levels. In atomic warfare you do not have to match enemy. Field Marshal Montgomery in speaking to the U.S. National War College in 1955 explained the SHAPE concept as follows:

"We came to the conclusions we could only do that (hold in Europe) by using the nuclear weapon and going in for a policy of destruction with that weapon -- the nuclear weapon having a great capability for destruction on an area basis -- and we, therefore, used as our chief agent the nuclear weapon and we used forces to support this weapon. Now that is a reversal of previous thinking. In past thinking it was the weapon which disrupted and weakened the enemy and then the forces moved in to complete the business. And I think the difference in the tactical concomitant of nuclear warfare is a very important matter to put right. You use the nuclear weapon for your offensive punch and not human bodies in the first instance."

THE VARIABLES

I. Mission (The job, —commitments, tasks, Etc.)

II. Concepts (The method, —policy, strategy, tactics, Etc.)

III. Resources (The means, —forces, weapons, funds, Etc.)

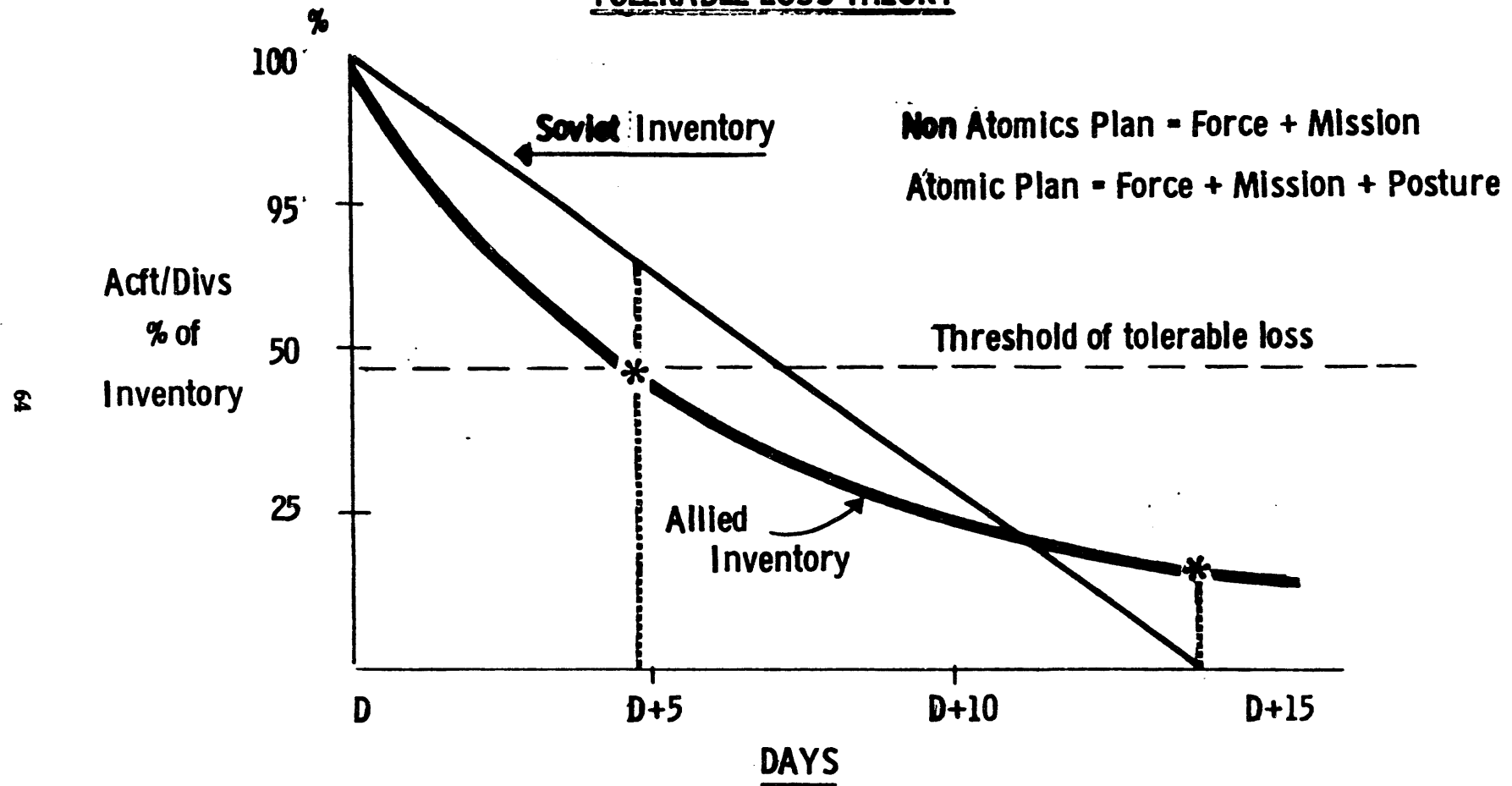
TYPES OF PLANS

EMERGENCY: THE MEANS, THE METHOD, THE JOB

REQUIREMENTS: THE MEANS, THE METHOD, THE JOB

CAPABILITIES: THE MEANS, THE METHOD, THE JOB

TOLERABLE LOSS THEORY



FIELD MARSHAL VISCOUNT MONTGOMERY, STATES:

"WE CAME TO THE CONCLUSIONS WE COULD ONLY DO THAT (HOLD FORWARD IN EUROPE) BY USING THE NUCLEAR WEAPON AND GOING IN FOR A POLICY OF DESTRUCTION WITH THAT WEAPON -- THE NUCLEAR WEAPON HAVING A GREAT **CAPABILITY** FOR DESTRUCTION ON AN AREA BASIS -- AND WE THEREFORE USED AS OUR CHIEF AGENT THE NUCLEAR WEAPON AND WE USED THE FORCES TO SUPPORT THE WEAPON. NOW THAT IS A REVERSAL OF PREVIOUS THINKING. IN PAST THINKING IT WAS THE WEAPON WHICH DISRUPTED AND WEAKENED THE ENEMY AND THEN THE FORCES MOVED IN TO COMPLETE THE BUSINESS. AND I THINK THE DIFFERENCE IN THE TACTICAL CONCOMITANT OF NUCLEAR WARFARE IS A VERY IMPORTANT MATTER TO PUT RIGHT. YOU USE THE NUCLEAR WEAPON FOR YOUR OFFENSIVE PUNCH AND NOT HUMAN BODIES IN THE FIRST INSTANCE."

Nuclear Weapons and NATO Operations:
Doctrine, Studies, and Exercises
1950-1983

12 September 1990

by

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"Massive Retaliation"

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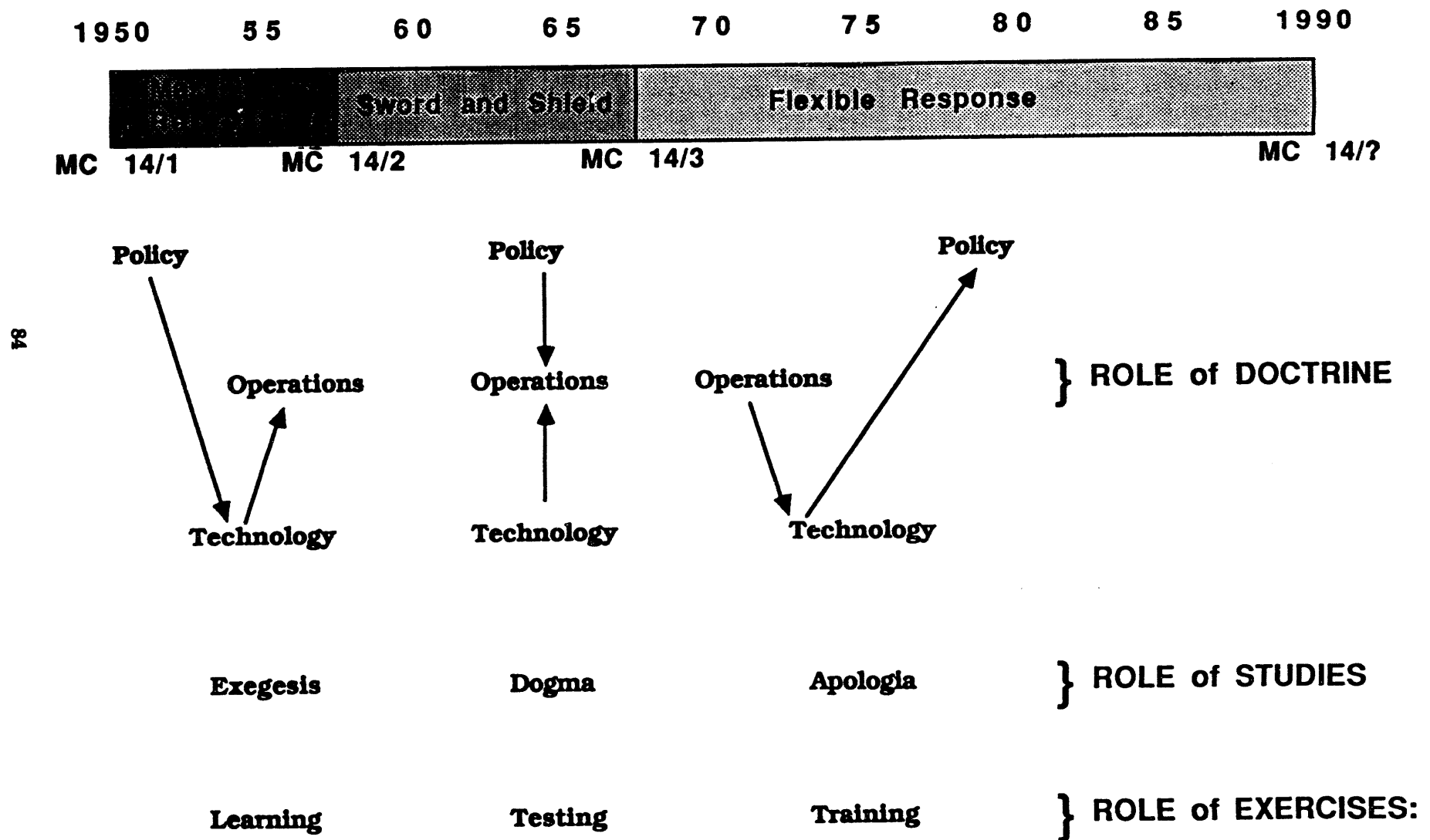
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Nuclear Weapons and NATO Operations: Doctrine, Studies, and Exercises



1950 - 1957

Assumptions:

- Massive US quantitative and qualitative lead in weapons.
- Few weapons available, few used.
- Collateral damage to civilians of little concern.
- Purpose of use -- battlefield victory.

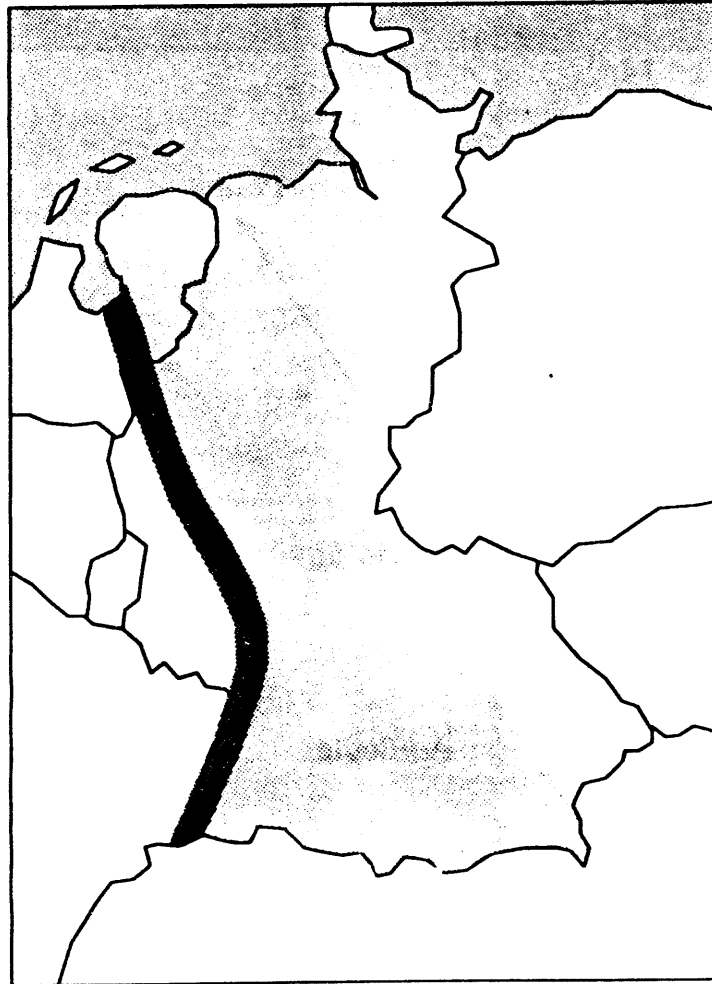
Ground Tactics and Battle Formation:

- Dispersion of battalions, separated by 4 - 5 kilometers.
- Companies are same depth separation as in nonnuclear war.
- Relies primarily on mobile offensive force to destroy enemy.
- Propenderance of combat maneuver power in reserve.
- Nuclear weapons used to support maneuver plan similar to use in nonnuclear force plans.

Air Operations:

- Nuclear delivery primarily dependent upon SAC. Theater targets secondary.
- Pre-emptive and provocative posture - "reflex action" post-strike operations.
- Role of TAC fighters to support SAC bombers.

**1950 - 1957
MC 14/1
FALLBACK - MASSIVE RETALIATION**



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1957 - 1967

Assumptions:

- Nearly equal weapon availability for US and USSR.
- Many weapons available, many used.
- Free use by commanders throughout depth of enemy's position.
- Collateral damage to civilians of slightly less concern than military damage.
- Purpose of use - prevent defeat.

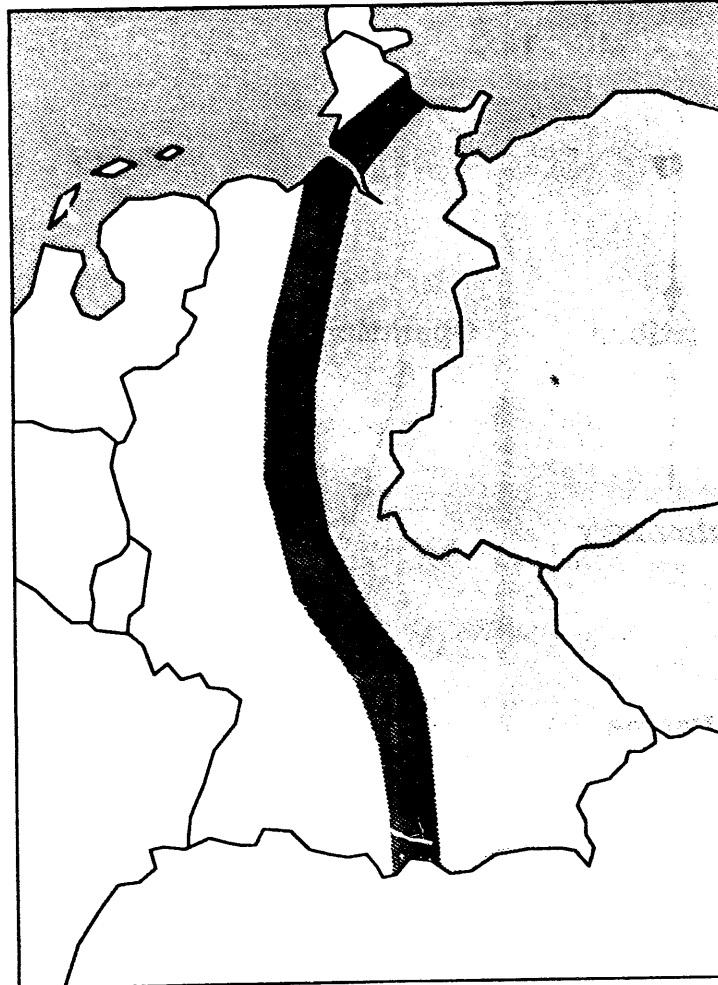
Ground Tactics and Battle Formation:

- Proliferation of Army nuclear delivery systems, increased accuracy.
- Companies dispersed, concern with warhead custody.
- Nuclear fire support systems inflict major enemy destruction, companies serve as defense and target acquisition systems.

Air Operations:

- Nuclear weapons for tactical aircraft against tactical targets.
- Growing anxiety over vulnerability of airbases, need for QRA posture.
- Concern over escalation control in long-range systems.

1957 - 1968
MC 14/2
TRIPWIRE - SWORD & SHIELD



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1967 - 1983

Assumptions:

- Nearly equal weapon availability for US and USSR
- Many weapons available, few used
- Maintaining political control of release and use of weapons vital
- Constrained use by commanders to avoid escalation
- Collateral damage to civilians a major concern, at least equal to military damage
- Purpose of use - termination of hostilities

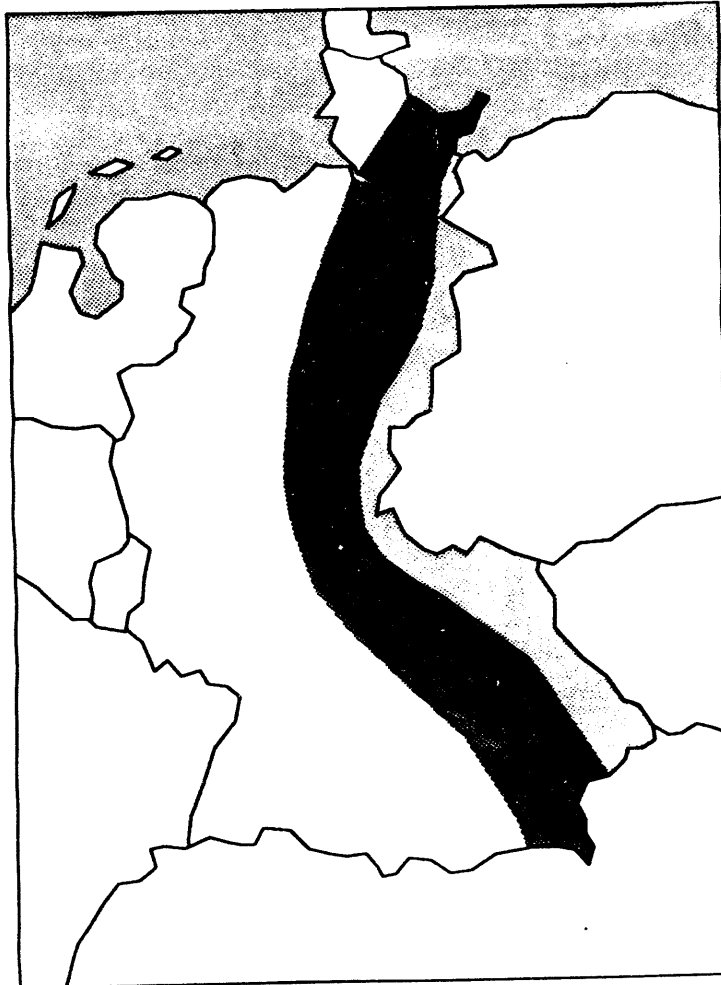
Ground Tactics and Battle Formation:

- Forward Defense, conventional concentration.
- Companies are same depth separation as in nonnuclear war
- Relies primarily on mobile defensive force to destroy enemy
- Lack of significant operational reserve
- Nuclear weapons used after conventional battle lost.

Air Operations:

- Return of early conventional emphasis, with dual capable assets.
- Growing fear of preemption.

1963 - 1981
FORWARD DEFENSE (MC 14/3) -
FLEXIBLE RESPONSE (1967)



Doctrine, Studies, and Exercises 1967-1983

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1967-1983 (continued)

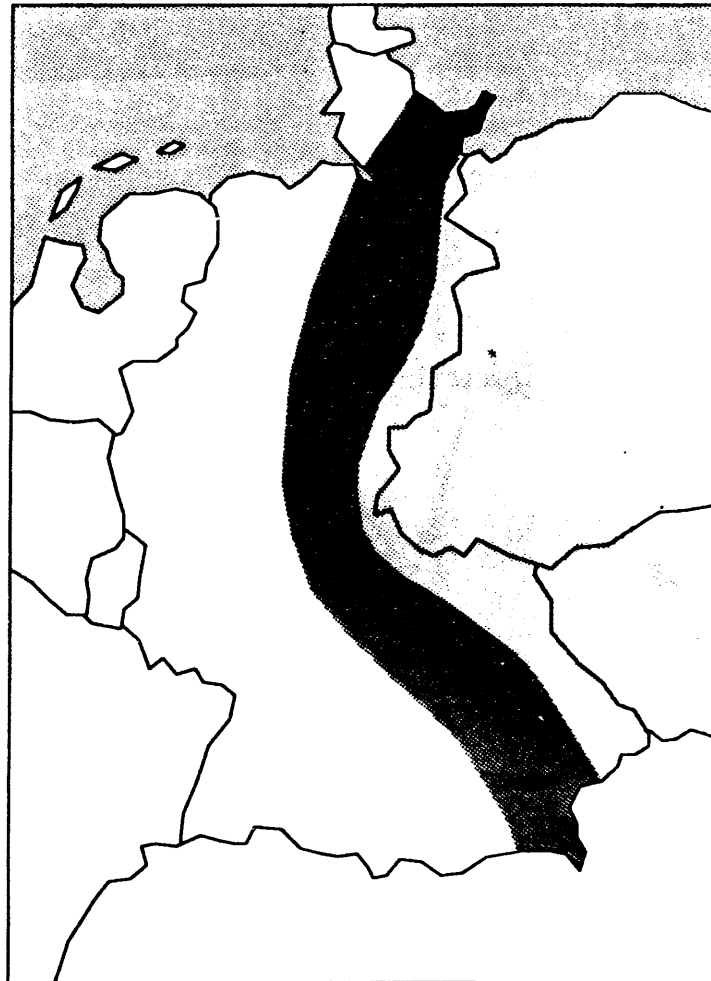
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Nuclear Weapons in NATO: the Enduring Issues

- Target Acquisition
 - Problems of Mobile and Transient Targets.
- Response Time
 - Release authority, selective response, and direct acquisition.
- Pre-launch survivability
 - Vulnerability of Fixed site systems and infrastructure.
- C3 on the Nuclear Battlefield.
 - "Problems of "positive control" and "real-time" communications in dispersed postures.
- Alliance Sharing
 - Imbalanced distribution of nuclear delivery assets.
- Transition
 - Vulnerability during conversion from conventional posture.
- Asymmetrical uncertainty
 - Deterrent effect of Doctrinal Ambiguity.
- Fallacy of Last Response
 - Repeatedly undermined assumption "We have it, they don't."

1978 - 1988

FOFA - DEEP STRIKE



THE ROLE OF STUDIES AND ANALYSIS IN THE BERLIN CRISIS

The question posed for this conference was whether military exercises, studies and analysis have made an appreciable difference in the policies associated with tactical nuclear forces (TNF) in the North Atlantic Treaty Organization (NATO). Many of the other papers presented here leave the impression that studies, analysis and military exercises have very little impact on the strategy, policy decisions and force posture of NATO tactical nuclear forces. The studies and analyses undertaken during the 1961 Berlin crisis suggest a very different conclusion: that studies and analyses, when specific in scope and carrying some sense of immediacy, can be enormously influential. Whether one considers the changes to be positive or negative, the experience of the 1961 Berlin crisis suggests that studies and analyses had a tangible and direct impact both on contingency planning for the Berlin crisis specifically and on discussions of the role of tactical nuclear forces more broadly.

There were numerous studies undertaken during the course of the Berlin crisis; for example, the Weapons System Evaluation Group study of limited war capabilities, studies by the Military Airlift Command of the civilian reserve air fleet and military airlift possibilities, and studies by the Joint Chiefs of Staff on the adequacy of reserve stocks in Europe. This paper focuses on three studies: the reports undertaken by

former Secretary of State Dean Acheson in the spring and summer of 1961; a paper by Thomas Schelling, an advisor to Henry Rowen, on the role nuclear weapons might play in the Berlin crisis; and a set of wargames conducted at Camp David simulating military conflict stemming from the Berlin crisis.

These three studies were chosen because they reflect the focus of this conference most directly. All three cases focused on the role of tactical nuclear forces in NATO. The Acheson reports were reviewed by the National Security Council (NSC) and, amended by the backlash to some of their premises, became the basis for American policy on Berlin. The Schelling paper convinced the highest levels of the Kennedy Administration of the need to change the parameters for evaluating the utility of tactical nuclear forces. The new direction of the Kennedy Administration also contributed to the disaggregation of political and military planning in the course of the Berlin crisis. The Camp David simulations reaffirmed the belief of the Administration of the need for a change to a military strategy not dependent on nuclear weapons use. The simulations also served as an educational forum to convince the British, French, and West Germans of the need for a change in NATO strategy.

BACKGROUND: The term "Berlin crisis" has become part of the lexicon of NATO history. However, the course of events from 1958 to 1962 concerning the status of Berlin is perhaps less a

crisis than a series of conflagrations stemming from pressures applied by the Soviet Union. A brief overview of the crisis merits review in order to put the studies in their context.

The crisis was touched off on 10 November 1958 by a speech given by Soviet Premier Khrushchev at a Soviet-Polish meeting in Moscow. In the speech, Premier Khrushchev stated that the Soviet Union considered the treaty basis for Western occupation rights in Berlin "null and void". (1) Premier Khrushchev also said that after six months, the Soviet Union would turn over responsibility for Berlin to the government of the German Democratic Republic (GDR). This Soviet position was reaffirmed in Soviet aide memoires to Britain, France, and the United States on November 27, 1958. (2)

The NATO Foreign Ministers decided at the December 16, 1958 Ministerial on a Berlin policy based on three essential elements: unrestricted air and surface access to and from Berlin for Four Power military forces, continued freedom and viability of the city of West Berlin, and maintenance of allied garrisons in Berlin for as long as the people of Berlin chose to have them. (3) The communique issued at the meeting stated that the Soviet Union could not unilaterally renounce its responsibilities undertaken in the 1944 Occupation Protocol, and rejected Soviet attempts to impinge on the rights accorded to Britain, France, and the United States in that treaty. After a flurry of diplomatic activity culminating in an agreement to convene a Foreign Minister's meeting on German

issues, on March 2, 1959 the Soviets indefinitely extended the deadline for signing a separate peace treaty with the GDR. (4) The Foreign Minister's meeting was unsuccessful in resolving the broad chasm between Soviet and Western positions on the future of Germany. After several months, and apparently in return for American President Eisenhower agreeing to a summit meeting with Premier Khrushchev, the Foreign Minister's meeting was adjourned. (5) The Eisenhower-Khrushchev summit, held in October of 1959 at Camp David, further reduced tensions. The summit also resulted in a tacit agreement to continue negotiations on Berlin and Germany in return for formal withdrawal of the Soviet deadline.

After the Camp David Summit, negotiations proceeded until the spring of 1960. A Four Power summit was arranged for early May in Paris. However, on the eve of the summit, the Soviets captured U-2 pilot Gary Powers, who had been shot down while flying a reconnaissance mission over the Soviet Union. Premier Khrushchev refused to have any further dealings with the Eisenhower Administration.

In January 6, 1961, Premier Khrushchev stated that the Western powers would eventually have to deal with the GDR government. The incumbent President, John Kennedy, sent a message to Khrushchev through Ambassador Llewellyn Thompson in Moscow requesting time to prepare for negotiations on Berlin and Germany, which apparently Khrushchev granted. (6) The first meeting between the U.S. and Soviet heads of state

occurred in Vienna on 31 May. At the conclusion of the discussions on June 1, Khrushchev stated, in almost the exact same terms as in 1958, that in six months the Soviet Union would sign a separate peace treaty with the GDR invalidating Western rights in Berlin if Britain, France, and the U.S. did not conclude an agreement with the Soviets on the future of Germany. (7)

The Vienna summit set off a frenzy of planning and policymaking activity in the Kennedy administration. President Kennedy made a televised speech on July 25, 1961 outlining American policy on Berlin and the associated military programs. On August 13, 1961, the East German National People's Army constructed a barrier between the Soviet occupational sector of Berlin and the occupation sectors of the Western Powers. The Berlin Wall defused the crisis to a large extent, by slowing the exodus of refugees from the GDR. Incidents continued to occur locally, most notably the tank confrontation at Checkpoint Charlie in October of 1961. Contingency planning continued in earnest until December of 1961, when the actual deadline Khrushchev had laid out at the Vienna summit elapsed.

THE STRUCTURE OF CONTINGENCY PLANNING: Contingency planning for the crisis occurred at many levels. A perfunctory explanation of the structure and relationship of the different planning organs is important for assessing the influence of the studies discussed in this paper.

Planning for the Berlin crisis went on at the national, trilateral, quadripartite and NATO levels. Planning began in the aftermath of the 1948 Berlin airlift. At the national level, airlift contingency plans were updated periodically by the Joint Chiefs of Staff, while the goals of U.S. Berlin policy were reviewed within the government, under coordination by the National Security Council. After the Vienna summit, the Kennedy administration created a number of other planning groups at the national level. These included: the Berlin Task Force, which coordinated Berlin policies in the interagency, chaired by Foy Kohler, Assistant Secretary of State for European and Canadian Affairs; the Berlin Steering Group, a subset of the National Security Council that included the President, Dean Acheson, and cabinet members with Berlin responsibilities; and a number of ad hoc or smaller groups with limited portfolios.

Tripartite contingency planning was institutionalized in February 1958, when the British, French, and American governments agreed to the request of Supreme Allied Commander, Europe (SACEUR) Lauris Norstad to establish a separate headquarters for Berlin planning. The headquarters, known as LIVE OAK, was effectively a "third hat" for the SACEUR. Because the forces in Berlin were technically occupation forces rather than NATO forces, Norstad wanted authority to undertake planning and operations outside the NATO framework. LIVE OAK

principally handled questions of allied access to and from Berlin. (8)

At the December 1958 NATO Ministerial meeting, after Premier Khrushchev delivered the aides memoires setting the six month deadline for negotiations on Germany, the Foreign Ministers agreed to establish a quadripartite Ambassadorial Working Group in Washington specifically to coordinate policies on Berlin. The Ambassadorial Group had two sub-groups, a politico-military sub-group and an incidents sub-group. The incidents sub-group coordinated the proposed national responses to Soviet harassment in Berlin. The politico-military sub-group was chaired by Paul Nitze, Undersecretary of Defense for International Security Policy. The function of the politico-military subgroup was to formulate the political guidance for potential British, French, and American operations undertaken by the LIVE OAK planning headquarters.

It is important to recall that while the lines of authority and communication may have been officially clear, in practice the factions operated with relative independence, often without knowing what was being done in other planning groups. For example, LIVE OAK was supposed to report incidents of harassment in Berlin to the incidents sub-group of the Ambassadorial Group in order to receive instructions for a response. However, the difficulty of making a timely response to the incidents led field commanders to report after the fact, with the support of the sub-group. (9)

THE ACHESON REPORTS: Dean Acheson was asked by President Kennedy to be a special adviser on NATO and Berlin issues. In that capacity, Acheson wrote two studies on Berlin. The first Acheson Report was delivered to the National Security Council in March of 1961. The report supported the policy objectives outlined at the 1958 NATO Ministerial, which stressed the importance of maintaining allied military access to Berlin, maintenance of the allied garrisons in Berlin, and the freedom and viability of the city itself. The basic argument of this first Acheson Report was that the Soviet Union was not interested in Berlin as such, but that Berlin was a pretext for larger and more menacing Soviet interests in Europe. (10)

The report stated that these policy objectives would be difficult to achieve because the Soviet Union was no longer deterred by the U.S. nuclear threat. Acheson argued for a substantial build-up in conventional and nuclear forces, and demonstration of U.S. willingness to incur heavy costs to preserve the three objectives of Berlin policy. Acheson also argued for a low threshold at which the U.S. would respond with military means to Soviet harassment. Without these measures, Acheson felt the Soviets would not consider U.S. declarations on Berlin credible.

The first Acheson report was discussed in the NSC meeting; however, no action was taken. It was decided that Mr. Acheson should be asked to make more specific recommendations

for consideration by the Berlin Steering Group. These recommendations were delivered as a second report to the National Security Council on 29 June 1961. The second Acheson report described the point at which the U.S. should engage the Soviets, the requisite conventional force improvements to make the policies credible to the Soviets, and a recommended negotiating strategy. (10)

The "breaking point on access" was considered to be Soviet interruption of military ground traffic on the autobahn routes. Up to that point, the study recommended the Western Powers constrain their responses to political sanctions. However, at the point of military traffic interruption, the study suggested the U.S., in conjunction with Britain and France, begin an airlift of supplies into Berlin and build-up of American conventional forces. During the airlift, Acheson recommended sending a division-sized "probe" down the Helmstedt autobahn to test Soviet intentions. The report argued that if the Soviets halted or engaged the division, that constituted proof of their intention to begin a war in Europe. Acheson felt the best U.S. option in such circumstances was to respond as though war were at hand.

Because Acheson believed the Soviet strategy was based on the false assumption that the U.S. would not come to the defense of Berlin, he outlined a number of high-visibility preparations designed to signal U.S. commitment to the Soviets. The report recommended a two to three division

increase in U.S. conventional forces stationed in West Germany, a three to six division increase of reserves to be called up and stationed in the continental United States, and significant increases in the capability to transport forces to Europe. The report also recommended the declaration of a national emergency by the President, and a refusal to negotiate with the Soviets.

Most of these recommendations contravened the positions taken by the Eisenhower Administration. In responding to the 1958 ultimatum, Eisenhower had refused to call off his planned reductions in American troop strength, stating that the Berlin situation should not be perceived as a crisis, but rather as a long-term source of irritation, over perhaps 40 years, in which the Soviets would attempt to make the U.S. overreact.

Eisenhower agreed to increases in operational readiness and other measures he felt the Soviets would be aware of without alarming Western publics and becoming a source of division in the alliance. (11)

No decision was made at the NSC meeting on recommendations in the Acheson report. However, a number of influential Kennedy advisers were alarmed at the draconian measures proposed by Acheson. Among these advisers were Henry Kissinger, Theodore Sorensen, MacGeorge Bundy, Abraham Chayes, and Arthur Schlesinger. Most of the critics of Acheson report felt that it was a dangerous, high-risk approach that focused on military measures in response to what was essentially a political crisis. Sorensen was tasked with formulating a

rebuttal. The alternative plan stressed "endurance rather than emergency measures," urged a public awareness program to educate the American people and world community on the basis for U.S. presence in Berlin and the importance of their continuation, and advocated negotiations with the Soviets as the only solution to the Berlin problem. (12)

The direction of U.S. policy on Berlin was decided at a series of NSC and Berlin Steering Group meetings on July 19, 1961. President Kennedy accepted about half of the Acheson recommendations; however, he also accepted half of the objections to it. The program for Berlin that President Kennedy approved consisted of: a 3.2 billion dollar increase in defense authorizations, with half to be spent in conventional force improvements and half on accelerating nuclear programs and increasing alert rates; request for Congressional authorization to call up reserves; an increase in force strengths of 175,000 in the Army, 29,000 in the Navy, and 63,000 in the Air Force; a tripling of draft calls; readying plans and capabilities for a large-scale airlift into Berlin; development by the end of 1961 of the capability to transport an addition six divisions to Europe; supplements to the tactical air and transport capabilities; a 50% increase in the alert rate for bombers of the Strategic Air Command (SAC); requests to NATO allies for build-ups of their own forces and cooperation on possible economic sanctions against the Soviet Union; and considerable improvements in American civil defense

programs. (13) The policy was announced by President Kennedy in a television address on July 25, 1961.

The Acheson reports were not part of the main stream of policy planning in the Kennedy Administration. Planning for Berlin policy had been going on at the State Department, in the Ambassadors Group, and in the organs discussed earlier. In fact, a more or less agreed approach to the Berlin problem had been in place for years prior to the crisis perceived by the Kennedy Administration after the Vienna Summit. However, the Acheson reports set the terms of debate for Berlin policy in the administration. They served as the straw man against which policy was formed and the general guidelines set in the reports constituted a considerable portion of the measures adopted by the administration.

The influence of the Acheson reports results partly from the stature of Acheson himself, as the former Secretary of State and a central participant in the foundation of the North Atlantic Treaty Organization. It also results partly from the serendipity of being available when a time-urgent problem required concrete solutions. But the influence of the Acheson reports is perhaps principally attributable to the desire by the Kennedy administration to take a fresh approach, not identified with the previous administration, in foreign policies. (14)

THE SCHELLING PAPER: After the Vienna summit, the Kennedy Administration became very concerned about the possibility of war, and particularly nuclear war, resulting from the crisis over Berlin. (15) One of the actions taken by the administration was to request a paper from Harvard Professor Thomas Schelling, an adviser to Assistant Secretary of Defense for International Security Affairs Henry Rowen, on the role that nuclear weapons might play in the Berlin crisis. The Schelling paper, entitled "Nuclear Strategy in the Berlin Crisis," was circulated in the administration on or about July 5, 1961. The paper, while only five pages in length, revolutionized thinking about nuclear weapons at the highest levels of the Kennedy Administration.

The argument presented by Schelling was that the traditional concentration by the military on damage infliction as the index of utility for nuclear weapons was inappropriate. Schelling argued that nuclear weapons were important because they could signal to an opponent the possibility of broadening and uncontrollable conflict. The paper states, "if nuclear weapons are introduced, the main consequence will not be on the battlefield; the main consequence will be the increased likelihood and expectation of general warfare... nuclears should therefore be used - if they are used at all in Europe - not mainly to destroy tactical targets but to influence the Soviet command." (16) That is, the function of nuclear weapons would not be war winning, but a demonstration of willingness to

incur risks. Nuclear war would be a competition in risk taking, a "war of nerve."

The paper did not simply suggest that signalling would be an important part of nuclear war; it stated that signalling should replace damage infliction as the index of utility. In discussing targeting, Schelling suggested that "Extra targets destroyed by additional weapons are not a local military "bonus"; they are noise that may drown the message." (17) The utility of nuclear weapons would not be set by battlefield criteria, but by risk assessment and management.

Schelling's analysis was taken by McGeorge Bundy to the July 21, 1961 weekend meeting at Hyannis Port, MA, and appears to have been influential in shaping the thinking of top members of the Administration. President Eisenhower had repeatedly refused to consider the possibilities of limited nuclear war and of employment of tactical nuclear weapons in isolation of the use of U.S. strategic forces. (18) The Kennedy Administration had been uncomfortable with the Eisenhower approach to the use of nuclear weapons, and the Schelling paper provided an alternative very attractive in analytical terms.

In the same time frame that the Schelling paper was under consideration by the inner circle of Kennedy Administration advisers, several working level civilians in the administration were involved in nuclear planning at the theater level. A working group under the direction of Henry Rowen was considering limited nuclear options with direct bearing on the

Berlin crisis. The group attempted to compile a target list related to Berlin from which specific options could be selected. (19) The politico-military sub-group of the Ambassador's Group, led by Paul Nitze, also began contingency planning for limited nuclear options. This sub-group developed the "Poodle Blanket" plan, a four-stage incremental response that culminated in a limited nuclear strike. Prior to these studies, there had been virtually no work done on tactical nuclear operations separate from a general war scenario.

While it is important to maintain the distinction between the Schelling paper and the strategy of flexible response, the Schelling paper did contribute to thinking about the use of nuclear weapons that was influential in the development of flexible response. The possibility of limited nuclear use in Europe, the notion of a "demonstration shot," and the concept of nuclear weapons use for signalling purposes were elements of later thinking in the strategy of flexible response. It was a harbinger of things to come, and to some extent a lightning rod for the later alliance difficulties coming to terms with American thinking about flexible response.

There were a number of problems with the Schelling approach to nuclear weapons use, however. The argument was very attractive in theoretical terms, but it presented numerous difficulties for implementation. First, the strategy was heavily dependent on correct interpretation of Soviet signals, and assumed that the U.S. could correctly determine the value

assigned by the Soviets to the respective Soviet targets. This requirement was beyond the capabilities of U.S. intelligence agencies in mid-1961. Second, the Schelling strategy gave little meaningful guidance for force planning, because its criteria were so subjective. For example, the paper states, "The purpose of nuclears is to convince the Soviets that the risk of general war is great enough to outweigh their original tactical objectives, but not so great as to make it prudent to initiate it preemptively." (20) Third, the Schelling argument did not postulate a Soviet response. It did not attempt to address the problem in an iterative fashion, with U.S. use and possible Soviet responses. The possibility existed that a nuclear demonstration shot, or even a small number of nuclear weapons to signal intent of escalation to the Soviets would invite a large scale Soviet nuclear response. The final, and perhaps most important difficulty was that the Schelling approach allowed the use of limited nuclear forces in Europe without commitment of the U.S. strategic forces.

Many of the problems with the Schelling approach were quickly apparent to operational staff, most of them military, although Paul Nitze, William Kaufmann, and Dean Acheson also were among its critics. In this respect, it aggravated extant tensions between military and civilian analysts in the Kennedy Administration, and is to some extent responsible for the disaggregation of military planning and civilian guidance in the later stages of the crisis. It also aggravated tensions

between the U.S. and its NATO partners, most notably the Federal Republic of Germany, which would be the likely staging ground for limited nuclear operations.

In an effort to calm allied suspicions and enlist more military support from the European allies, President Kennedy sent Seymour Weiss from the Department of State to explain the changed approach of the administration to a special meeting of the North Atlantic Council (NAC). When the briefing was finished, NATO Secretary General Stikker asked SACEUR Norstad for his comments. In a frustrated effort to express both military and European concerns, Norstad responded that he considered the Administration plans, "a load of crap." (21)

Transatlantic tensions were further exasperated by the perception that the Schelling approach constituted a unilateral change in U.S. strategy. The existing NATO strategy had not been formally superceded by flexible response, and yet the Kennedy administration was insistent that planning for Berlin contingencies be based on those principles. The adoption of flexible response was a prerequisite in the politico-military sub-group. Flexible response as the basis for Berlin planning was accepted by the North Atlantic Council in a special August 1961 Ministerial called to discuss Berlin. While the European states agreed, they resented the manner of adoption. (22)

THE CAMP DAVID SIMULATIONS: Thomas Schelling was also involved in designing and running a wargame, sponsored by the Office of

the Undersecretary of Defense for International Security Policy, at Camp David that simulated a U.S.-Soviet military conflict stemming from the Berlin crisis. The simulation occurred over the course of two days, with the participation of most Kennedy Administration senior policymakers and working level action officers, both civilian and military, with responsibilities for Berlin. The original purpose of the wargame was to determine the behavior of the Strategic Air Command during a crisis. (23) The game was organized in three cycles, with players divided into U.S. and Soviet teams. Schelling and Alan Ferguson acted as a control with the ability to introduce new elements into the crisis and played the East German, French, British, and German participants. Three scenarios were distributed to the participants, with the actual game plan chosen the day of the simulation. The scenario chosen paralleled the development of the 1961 Berlin crisis closely in its initial phases. The crisis began with Soviet threats to turn over Berlin access rights to the German Democratic Republic, and an allied diplomatic response. The U.S. agreed to negotiate with the Soviets over German issues, provided there was no interference with military access to Berlin during the course of negotiations. In response to the Soviet pressure, NATO moved to General Alert readiness; the Soviets responded by moving ground troops into forward positions.

The scenario continued with East German troops harassing air traffic going to Berlin. The U.S. responded by forcing access with fighter escorts, and incurring a number of casualties. The control team had French, West German, and British allies pressing the U.S. for stronger actions, although the British were reluctant to implement allied contingency plans. The U.S. readied a division-size ground force to probe the autobahn corridors. At this point, there was an uprising in the GDR, which asked the Western powers for assistance; the request was turned down. The Soviets moved four armored divisions into and around Berlin to quell the GDR uprising, and another armored division behind the East German troops to block the autobahn.

The Soviets and Americans continued preparations, with the U.S. blockading the GDR, and the Soviet Union continuing to move units forward into the GDR. The Soviets cut off Berlin from the rest of the GDR, "proceeding brutally and successfully." In response to continued GDR harassment of allied military aircraft, the U.S. employed three squadrons of fighter-bomber aircraft to attack GDR airfields. A U.S. battalion broke through the barriers at Helmstedt and was attacked by GDR aircraft. The battalion ceased forward movement and dug in defenses, only to be surrounded by GDR troops.

When the wargame reached this point, both the U.S. and Soviet teams began dampening the crisis by sending diplomatic

notes calling for calm and asking for cooperation. Military preparations continued on a large scale, but there was no contact between U.S. and Soviet troops. The crisis was resolved by a Soviet proposal for a treaty between the Four Powers and the two Germanies that guaranteed access to Berlin. (24)

The result of the game was that it was impossible to initiate war between the U.S. and Soviet Union. In fact, it was very difficult to keep the crisis active at all once the prospects for direct U.S.-Soviet confrontation mounted. Both sides tended to overestimate the other side's perception of the aggressiveness of their own behavior while underestimating the aggressive intent in the opponent's actions. (25) Nuclear weapons use was only mentioned once, and never seriously considered by any of the participants.

A second simulation was conducted in February of 1962, with participation of many of the same American policymakers and the addition of the British, French, and West German members of the NATO Standing Group (which still met in Washington at that time.) Again, the result was an inability to initiate conflict between the U.S. and Soviet Union, irrespective of which national participants played which role. However, the simulation demonstrated to administration officials that European decision-makers would be no more willing than Americans to initiate nuclear weapons use in defense of Europe. (26)

CONCLUSIONS: Unlike the experience of many of the studies, analyses, and military exercises discussed in the course of this conference, the Acheson reports, the Schelling paper and the Camp David simulations each had a significant impact on the policy debate over the role of nuclear weapons in Europe. There are three reasons that the studies and analyses undertaken in the context of contingency planning for the 1961 Berlin crisis had a greater impact on TNF policies in NATO: time urgency, focused analyses, and real alternatives.

The first reason is time urgency. After the Vienna summit, the Kennedy Administration believed that it had only six months before facing the prospect of direct military conflict with the Soviet Union, possibly leading to a strategic nuclear exchange. This pressure to make decisions of considerable importance gave credence to the studies that perhaps would not have been accorded in other circumstances.

All three of these studies were also focused on specific elements of a problem. By maintaining a relatively narrow focus, such as the applicability of nuclear forces to the crisis in Berlin, the studies were able to offer specific and policy-relevant advice. The studies may not have been influential if the crisis had not progressed along the lines predicted in the Camp David wargame, or had been broader in their scenarios.

Finally, the administration faced a clear choice in its approach to the Berlin problem. The Eisenhower Administration policies were directed at minimizing the crisis aspects of the problem, refusing to undertake high-profile reinforcements and acceleration of programs, and biding time until the Soviets would accept the political arrangements the Western powers considered essential. The Kennedy Administration was interested in approaching the problems differently, more with an interest in near term resolution. The politico-military programs associated with these two approaches dictate very different directions. While, in the end, the Kennedy Administration did not make a clear choice between these alternatives, the studies outlined the alternatives and their consequences. These three elements, time urgency, focus, and discernable alternatives, perhaps were the reason the Acheson reports, the Schelling paper on nuclear weapons in the Berlin crisis, and the Camp David simulations had a great influence over and above many of the other studies, analyses, and military exercises of the period.

NOTES:

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" The Sword-Shield Strategy of the Early 1960's"

General Johannes Steinhoff (ret.)

In my presentation, I want to take up only sporadically the topic ~~Corey Zabala~~ ^{Mr. Shaker} dealt with in her paper, "TNF and the Berlin Crisis". In many respects, when the Berlin Wall was built, I was still a newcomer to the realm of military strategy. I can substantiate this in that I had the privilege not of only being posted as the German representative to NATO in Washington D.C. in the Fall of 1960, but also of working and "learning a lot" in the chairmanship of Paul Nitze. It wasn't so much contingency planning which stood in the foreground as it was discussing and analyzing prevailing strategies.

After having worked several years in civilian life, I returned to active military duty in 1956 as Chief of Plans, German Air Force (Luftwaffe). Prior to that I worked in Air Force Plans at the EDC (European Defense Community) Headquarters in Paris. The EDC, in my eyes, was a lost dream. The nuclear problem, by the way, did not play the slightest role at that time. We Germans saw rearmament to be a direct offspring of the Cold War - a challenge which undoubtedly was one of its kind in the movement of history. Discussion concerning nuclear strategy

most certainly placed Germany more than the other nuclear "have nots" before a test of tensile strength.

Dr. Rinne addressed the objective of this conference in this letter in April. Among other things he wrote: "...A great deal can be learned through the study of the process by which those responsible for developing policy, operational concepts, and weapon technology made their decisions." Furthermore, "...who made these decisions? What information and analysis was available? How were accents identified and a plan developed?..." Hopefully, I will be able to accentuate these objectives during my talk today.

Soon after I arrived in Washington, D.C., in the Fall of 1960, prominent American newspapers published a study by Robert R. Bowie. Those involved in the study examined whether the Soviets rapidly growing capability to employ its long-range missiles would have a negative impact on the credibility of NATO strategy. They maintained the consequences were such that limited aggression or even nuclear blackmail of NATO Europe were not feasible, but highly likely - and there wouldn't be a thing the American strategic nuclear weapons could do about it. The "non-nuclears" within NATO's Military Committee in Washington paid close attention to these discussions which also involved Europe. Thereby it was noted that the bulk of the critique

concerning the strategy of the MC14/2 - which after fervent controversy the Europeans finally declared to be their "Holy Bible" - also suffered from lack of understanding of the problem which confronted the Alliance on the continent. Furthermore, there was also a certain degree of ignorance as far as the military geographical data of the European continent and modern weapon development were concerned.

Since the end of the second world war, enormous advancement in arms technology development was realized throughout all branches of the military. However, in spite of entering a new technical world of electronics and communications, which provided new impulse throughout all branches, overall technical development within the army and navy remained conventional in comparison to that which was realized in the "third dimension". Furthermore, combat in the "third dimension" saw the magnitude of space and time diminish in an almost unbelievable way.

The technical revolution of the jet engine had brought the continents closer together while the speed of other modes of transportation, i.e. ships, vehicles, and tanks, had only improved slightly. The combination of flying at speeds up to twice the speed of sound along with the means of modern radar navigation and guided missiles made it possible to reach any place on earth, in all weather conditions, day and night.

We in the Federal Republic were faced with the dilemma of determining whether the weapons systems of the "third dimension" were indeed effective for air defense, ground support, and counter-air-operation in conventional combat.

Hence, the mainstay of combat, aircraft and missiles, provided ideal means of transport for nuclear weapons. Modern (smart) conventional bombs did not yet exist. The assigned close air support squadrons in the European theater still only had the "iron bombs" left over from World War II in stock. Surface-to-surface missiles, i.e., Mace and Matador, were about to be put in service. And these weapons were of course accepted as single purpose systems - as nuclear.

In 1956, when I took over as Chief of Plans of the new Luftwaffe, we were merely a handful of people - former WW II Air Force officers. The Chief of Staff at that time was General Kammhuber. He happened to be the man responsible for the air defense of the Reich during WW II until he was relieved of his job. Later, as the Chief of Staff of the new Luftwaffe, his strategic ideas circled almost exclusively around air defense.

One meeting with SACEUR General Norstad, in 1957, ended in a clash. Whilst Norstad emphasized the importance of nuclear

deterrence, Kammhuber insisted on the necessity to build up a strong German air defense as the main task of the new Luftwaffe. He was, however, forced to change his mind very soon after he learned that technology had changed the Kriegsbild entirely. In fact, Kammhuber actually became a strong defender of the strategy of massive retaliation - up to the extreme.

Soon after we started to build up our Air Force from scratch, the relaxation of the "all or nothing" strategy in favor of a concept of prolonged conventional combat was discussed. We argued that it was primarily the air forces that lived from hand to mouth and that combat in the air could only last hours, or a few days at the most.

Other than a reserve of spare parts for existing operational aircraft, there was absolutely no reserve of aircraft in the depots. The cost of modern air weaponry had in fact risen astronomically since the end of the war.

The supporters of a more flexible, more conventional defense strategy within an integrated European air defense system gave us our biggest headaches. Based on the knowledge that responsibility for air defense was not feasible in a national sense, implementation of a new concept of a SAM belt of the European continent consisting of Nike and Hawk batteries from the

Baltic Sea to the Alps was imminent. Consequently, there was no longer a national air defense, since the Dutch, Belgians, Germans and Americans subsequently shared the new concept with support of the air defense belt. Equipping the required Nike-Hawk batteries proved costly and was destined to take several years to complete. This plan not only included necessary launch systems but also comprised the procurement of local radar target acquisition and control units - to say the least, a very costly as well as vulnerable early warning net from the North Cape to Mount Ararat - but also took the required number of missiles to be launched into account. A Nike battery, for example, was to be equipped with 25 SAMs while a Hawk battery was to have 55 SAMs.

Careful calculations showed that a Nike unit could sustain firing during constant air attack or continual mass raids for 45 minutes and a Hawk for 20-30 minutes before having to cease fire because they had exhausted their supply of ammunition.

As far as this applied to the allied bomber offensive during the second world war, arguments opposing a theory of the sustained operation of modern air combat systems with conventional weapons naturally found substantial support. It was along this line that "Operation Clarion" in 1945 - massive allied air attack during which 8000 airplanes dropped 8500 tons on the Third Reich's railways - proved unsuccessful. The result:

"...the German rapid railway repair force was not affected: had no real effect on the Reich's railways: also no major weakness could be detected at the home front". Attacks on air bases in the Reich also remained relatively harmless. Any damage that occurred was quickly repaired by the work force and the bases in no time returned to operational status.

A major attack of 212 Flying Fortresses on the airport at Muenchen-Riem, on April 9, 1945, during which 550 tons of bombs were dropped, was virtually in vain. The airport based jet aircraft at the time of the attack. The loss of aircraft was minimal and flying operation continued as normal. I can verify this as I was stationed at Munich-Riem as a jet pilot on that very day.

At this point, I would like to say a few words concerning the build-up phase - the first four years - of the new German Luftwaffe with emphasis on the flying aspect.

This was initiated in 1956, with material furnished by the United States through the Nash Plan. The GAF received the Republic F-84G and F. Several of the fighter bomber wings were equipped with these weapons systems in order to participate in the nuclear strike plan. From the beginning, the air staff was very eager to modernize the fighter bomber inventory.

As Chief of Plans, I was deeply involved in our fighter and fighter bomber evaluation program. In 1958, we decided to procure and modernize the Lockheed F-104 Starfighter. But in order to be able to take advantage of the technological progress, we were thoroughly convinced that the nuclear deterrence program was the only way to convince the Soviets not to take the risk of aggression in Europe. We decided to convert this aircraft from a day-fighter into an all-weather fighter bomber. In order to be able to attack targets at a distance up to 450 nautical miles in all weather conditions we integrated an autonomous navigational system to the aircraft - inertial navigation. In addition to several other technical improvements, the Starfighter's existing air-to-air radar was converted into a pretty effective terrain avoidance radar - altogether a very costly program.

Since I had test flown the Starfighter in its air-to-air and air-to-ground role, I came to the conclusion that this airplane - rather a rocket with wings than an airplane - was anything else but a ground attack vehicle. And what was even more important at the time was the fact that we didn't have any effective air-to-ground weapons - only unguided rockets, guns, machine guns, and napalm.

While the first American manufactured Starfighters - later

they were licensed to be built in Germany - arrived in the Luftwaffe's wings. I was posted to Washington, D.C., in October, 1960, as I already said, to assume the position of the German Military Representative to NATO. At that time, both NATO's Standing Group and Military Committee were still in Washington, D.C. And it was only upon my arrival in Washington, D.C., that I learned about the "Bowie Report".

The debate surrounding the validity of the Sword-Shield Theory of the MC14/2 was soon in full motion. In connection with the NATO Force Requirements for the year 1966, Norstad had stated the following in his cover letter (1959), paragraph 4B: "Quote - we have to be backed up, in almost all circumstances, essentially by atomic weapons. There will be improvement in the area conventional potential within the framework of the proposed program. Consequently, the threshold of nuclear weapon deployment can be raised. The scope of the choice of response will be increased in the event that additional forces could be made available". unquote

Congressman Hollifield, a Democrat from California, and Chairman of the Joint Committee of Atomic Energy, gave his reply during a television debate with Henry Kissinger on May 27, 1961. He said: Quote "The deployment of nuclear weapons within NATO should only be used as a last resort only if the conventional

forces are overrun. Unquote

And General Decker, Chief of Staff, US Army, reacted in an interview in "US News and World Report" on May 29, 1962, as follows:

Question: Could a war in Europe feasibly be won against an army of 2.5 million soldiers without employing nuclear weapons?

General Decker: If there are sufficient conventional forces available, yes, it could be won.

The confusion amongst the non-nuclears was almost complete. Whilst we, the "have-nots", had just digested the nuclear-syndrome and our governments - or respective Defense Ministries - had come to a certain degree of acceptance of the theory of nuclear deterrence, a dangerous schism amongst the top American strategists had become all too evident. This, in turn, threw the U.S. leadership into a state of doubt.

While working through the numerous Berlin contingencies, we Germans naturally complied with prevailing NATO strategy. This led to further discussion with our chairman, Paul Nitze.

It was sometime during October of 1981, that I had the privilege of being seated on a Washington, D.C. - New York flight

next to Mr. Paul Nitze. He immediately took the opportunity to discuss the question: "Why are you continuously against the use of present generation NATO fighter bombers in a conventional role?" My reason for opposing this, in a nutshell, was as follows: "No modern and effective air-to-ground munition was available yet. And, moreover, since Mr. McNamara's second major concern was "cost effectiveness", the employment of modern fighter bombers equipped with WW II munition would simply be a total waste of money".

He replied: "You just wait. We have very effective cluster weapons and other munitions under development. These are area weapons. They are going to make your Starfighters very cost effective in the conventional role!" He was referring to the CBU series of weapons, cluster bombs to be dropped at very low levels from fast flying jets with the aim to destroy armored vehicles on the move.

Another six years passed before I was to have the opportunity to personally observe these wonder weapons at a demonstration. In the Meantime, a strategy of mass retaliation had replaced by one of flexible response. French protest to the MC 100 in 1963, was not the only reason the plan failed. Yet the development of the continental European's conventional capability was not breathtaking and nuclear escalation up to the employment

of the SIOP continued to play a key role in our exercises. When I took over as Chief of Staff in the Fall of 1966, there were still approximately 400 odd fighter bombers in Central Europe with appropriate capability to carry out nuclear strike - apart from Mace and Pershing. Meanwhile, the Luftwaffe had also equipped ten squadrons with the weapons system Starfighter, seven of which were tasked with a nuclear role.

In 1965-66, a lively exchange of correspondence evolved between the Federal Republic's Minister of Defense von Hassel and Secretary of Defense Mr. McNamara, pertaining to McNamara's call for the dual capability of the German Starfighter contingent. The Germans were primarily concerned about not over emphasizing the conventional role of the Starfighter particularly since they were the only ones on the European continent who had brought in a special light-weight strike fighter - the Fiat G-91 - to provide close air support. Bonn argued that the Starfighter's dual capability was not cost effective.

This exchange between the two ministers was therefore of great interest because of McNamara's apparent unwillingness to grant the remaining three yet to be established German Starfighter squadrons sole nuclear capability. Moreover, he insisted that the last three also have full dual capability.

Minister von Hassel rebuked that SACEUR's requirements included ten Starfighter strike squadrons, ^{but} ~~and~~ that it would be practical to receive conventional special weapons manufactured in the United States.

McNamara retorted that all ten Starfighter squadrons had to have full dual capability. They had to be fully equipped with modern conventional munitions. Here it is pertinent to cite a commentary from the Luftwaffe to the German Defense Ministry:

Quote "The weapons system F-104 was procured for nuclear warfare and is designed accordingly. By virtue of its characteristic with regard to cost effectiveness, it is not very suitable for conventional deployment. McNamara's anticipated information brief concerning American conventional special weapons is naturally of great interest to us." unquote

When I took over as Chief of Staff, German defense was in a state of crisis as a result of the number of accidents involving the Starfighter - most of them fatal. This state of crisis had extended over to the government.

How were we to carry on with this special conventional weapon? In the Spring of 1967, I flew to the United States,

where I witnessed live tests with these special CBU weapons in Arizona. The results were devastating. Without going into details, I would like to point out that more than 50% of the bomblets dropped were duds. Furthermore, the pattern of the cluster bombs was so narrow that only a highly skilled aviator had a chance of hitting a column of tanks. This live demonstration was a shock - and not only for the German Chief of Air Staff.

It was then that we decided to obtain British conventional bombs and weapons.

In retrospect, let me say a few words concerning the 1961 Berlin Crisis and the role the FRG was playing within the Ambassadorial Group and Military Sub-Group. Apart from the fact that the three power's reaction to the erection of the wall was pretty slow and that the recognition of the DDR seemed eventually to be the only way out of the dilemma, we, the Germans, were very concerned about possible conventional response as a reaction to Berlin infringements. Having only just digested the presence of a considerable amount of nuclear weapons on our soil and having already adapted our forces, mainly the Luftwaffe, to nuclear equipment, we were convinced that conventional response in the Berlin case was both ineffective and dangerous.

In closing, I would like to say this concerning the entire subject matter: During my last years of active duty, in the end as Chairman of NATO's Military Committee, I fully supported the strategy of flexible response. Of course it is true that there was very little information and analysis available during the period of time I talked about today (I am referring to Dr. Rinne's questions). And we most certainly underestimated the technical possibilities of the early 1960's. Also the United States has had to pay bitterly, and in this case I am referring to the war in Vietnam and failure to blow up the Hanoi Bridge until laser bombs finally became operational as an example.

It has in effect taken up to the present day to develop really effective all-weather conventional weapons which can cost effectively be delivered by aircraft to their ground targets. But even today, cycle surveillance reconnaissance, target acquisition, and real time data transmission still don't function in extreme weather conditions to our satisfaction.

And permit me one more remark: General Norstad justified the necessity for implementation of MRBM because strike aircraft would soon become obsolete. That is how he argued in 1958/59. Today, because of aircraft with autonomous navigational systems, we are able to achieve incredibly small CEPs, and therefore are capable of effectively fighting conventional munitions - that is

when the cycle I just mentioned functions properly. But the question as to whether the use of sophisticated air-to-ground munitions is "cost effective" or not still remains. An MWI container costs 1.7 million German marks (approximately \$1.1 million dollars at today's exchange rate). And the Germans have a total of 1000 such containers. I'd like to close with one more remark: at the risk of having essentially only talked about air war strategy, I don't think that abrupt changes to NATO's strategy in view of the principles of technology are simply possible. And moreover, this alliance is an alliance of sovereign states - for example, the Federal Republic of Germany's procurement of the Starfighter makes this clear. It took years to solve the technical preconditions for the effective use of manned systems in conventional war. And although General Norstad was afraid that his Fighter-Bomber Force would become obsolete too fast, they are still with us and play an important role.



Sandia National Laboratories

THE FOLLOW-ON USE STUDIES

Garry S. Brown

Tactical Warfare Studies

Sandia National Laboratories, Albuquerque

A Review of NATO's Follow-On Use Studies 1969-1973 (U)

Douglas B. Lawson

Prepared by
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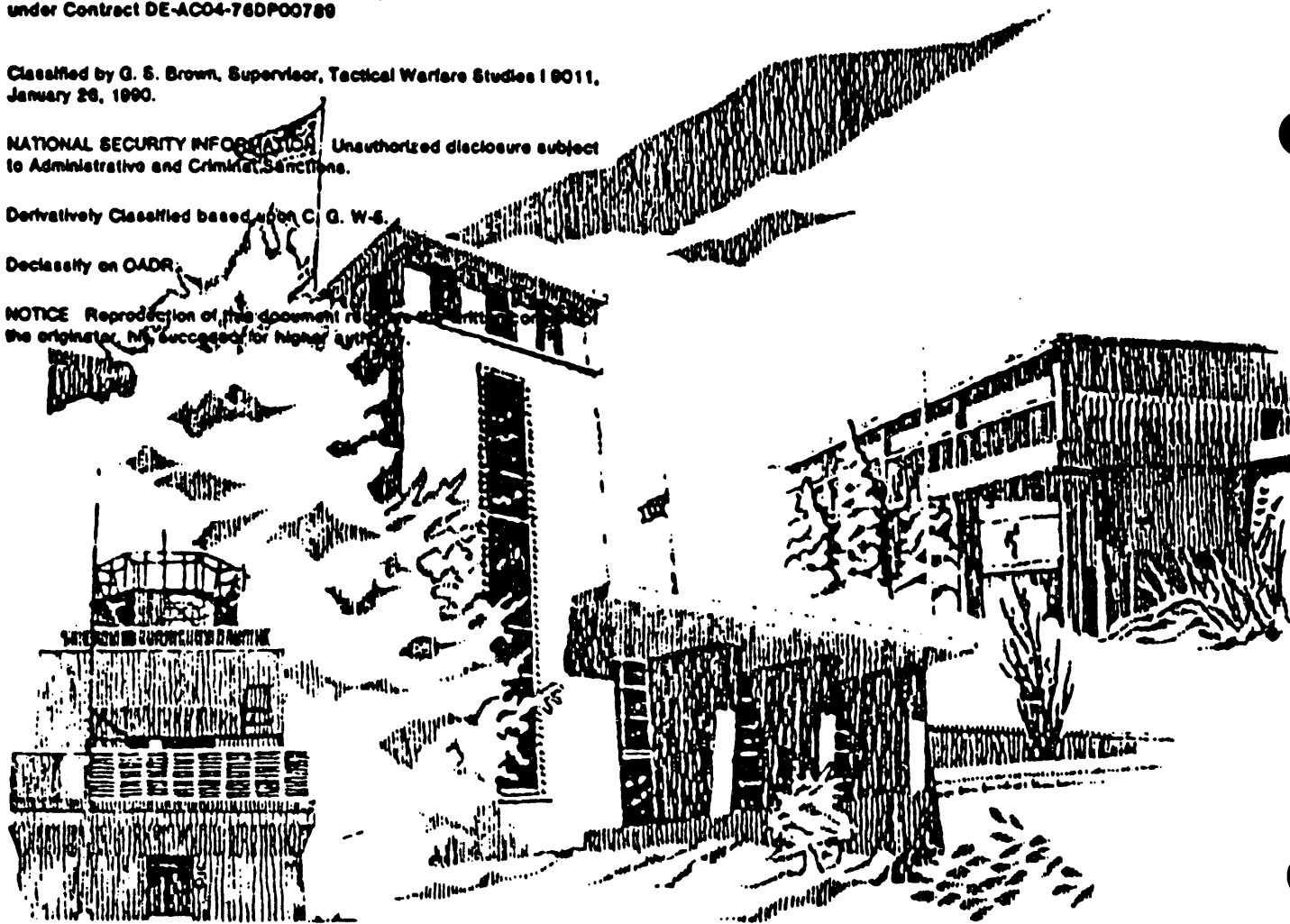
Classified by G. S. Brown, Supervisor, Tactical Warfare Studies 18011,
January 26, 1990.

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WRITTEN HISTORY IS NOT COMPLETE



Hannibal's first attempt



BACKGROUND (WORLD EVENTS)

- **Vietnam Conflict (1962-1973)**
 - January 1969: Peace talks begin.
 - April 1969: U.S. military in RVN peaks at 543,400.
- **Watergate (June 1972)**
- **Yom Kipper War (October 1973)**



BACKGROUND (LEADERSHIP)

- **NATO Secretary General**
 - Manlio Brosio (1964-1971)
 - Joseph Luns (1971-1984)
- **SACEUR**
 - GEN Andrew Goodpaster (Jul 1969-Dec 1974)
- **FRG Chancellor**
 - Willy Brandt (1969-1974)
 - Helmut Schmidt (1969-1972)
- **U.S. President**
 - Richard Nixon (Jan 1970-Aug 1974)
- **U.S. Secretary of Defense**
 - Robert McNamara (1961-1968)
 - Clark Clifford (1968-1969)
 - Melvin Laird (1969-1973)
 - Elliot Richardson (1973)
 - James Schlesinger (1973-1974)



BACKGROUND (NATO)

- **1966: NPG formed.**
- **1967: MC 14/3 adopted.**
- **1968: Initial Use Studies.**
 - U.S. - Demonstration Use
 - FRG - Battlefield Use
 - UK - Maritime Use
 - IT - ADM Use
- **1969: PPGs adopted and Follow-on Use Studies commissioned.**



FOLLOW-ON USE STUDY PROGRAM PHASES

- **PHASE I: 1969-1973**
Analytical studies of follow-on tactical use of nuclear weapons in eight geographic areas.
- **PHASE II: 1972-1975**
"...comparative analysis of the [8 Phase I studies], synthesis of the findings and identification of the policy questions."
- **PHASE III: 1975-?**
"...formulation of proposed political guidelines for follow-on tactical use of nuclear weapons...."



PHASE I (1969-1973)

- **Purpose:**

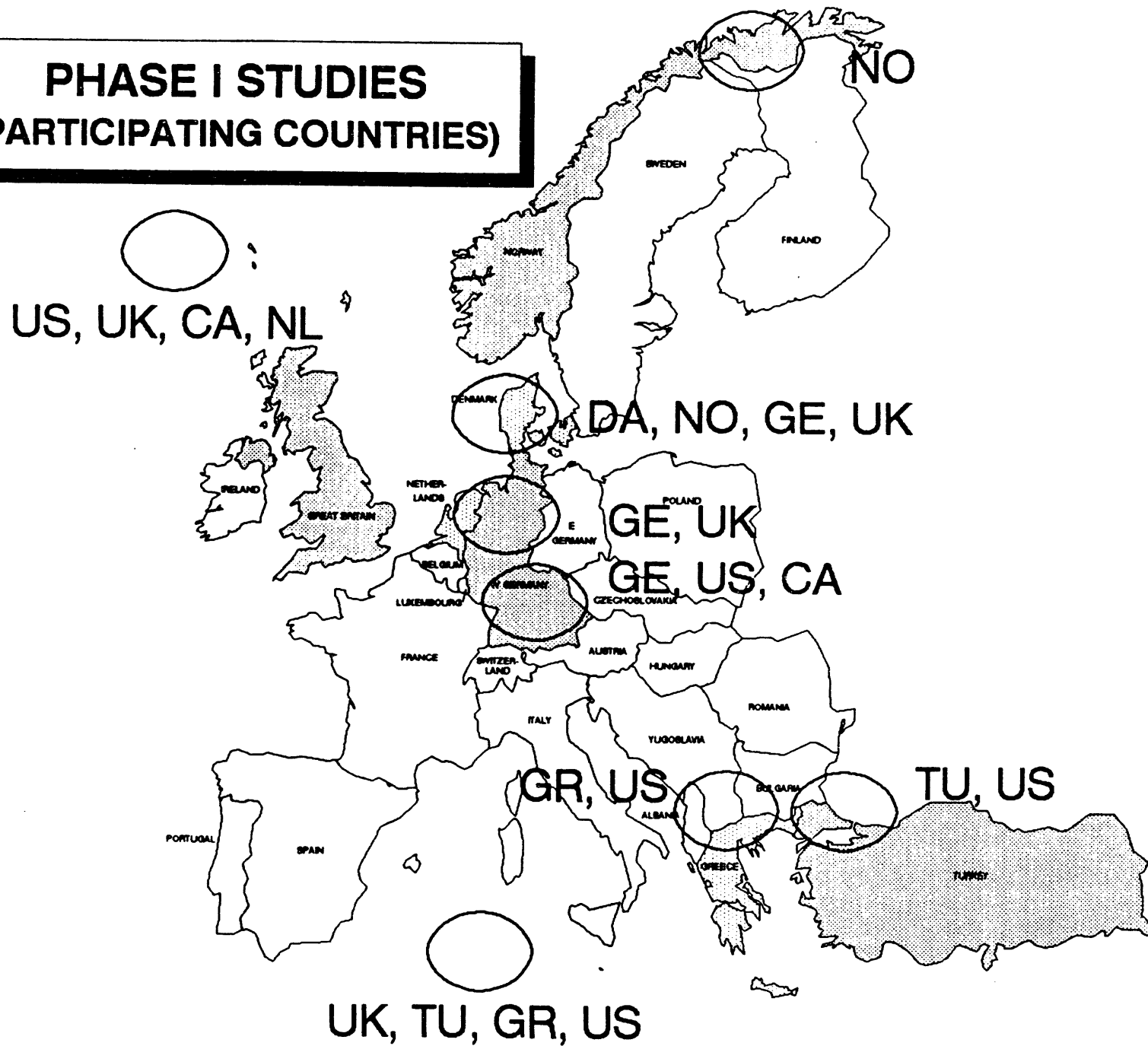
- Analytical studies of follow-on tactical use of nuclear weapons in eight geographical areas.

- **Membership:**

- Canada, Denmark, Germany, Great Britain, Greece, The Netherlands, Norway, Turkey and the United States.



PHASE I STUDIES (PARTICIPATING COUNTRIES)





PHASE II (1972-1975)

- **Purpose:**

- "...comparative analysis of the [8 Phase I studies], synthesis of findings and identification of the policy questions."

- **Membership:**

- United States (Chair), Great Britain and the Federal Republic of Germany.



TRANSITION TO NUCLEAR WARFARE

"To use nuclear weapons is to cross an absolute threshold and introduce into the conflict a profound qualitative change which is accompanied by profound risks to both sides."

Phase II Study Report, 1975



PHASE III (1975- ?)

- **Purpose:**

- "...formulation of proposed political guidelines for follow-on tactical use of nuclear weapons, for ... the Defense Planning Committee."

- **Membership:**

- United States (Chair), Canada, Great Britain, Federal Republic of Germany, Italy and The Netherlands.



PRIMARY POLICY DOCUMENTS

PHASE III

- 1. Athens Guidelines**
- 2. MC 14/3**
- 3. Ministerial Guidance - 1975 (DPC/D(75)4 Final)**
- 4. PPGs**
- 5. Strike Role Paper**
- 6. Special ADM Guidelines**
- 7. Consultation Guidelines**



ADDITIONAL SOURCES

PHASE III

- 1. The Warsaw Pact Strength and Capabilities (MC-161).**
- 2. Phase II Study Team Report.**
- 3. Study on Warsaw Pact Politico-Military Strategy and Military Doctrine for the Tactical Use of Nuclear Weapons.**
- 4. Communicating NATO's Intention (CNI) to Use Nuclear Weapons.**
- 5. Conceptual Analysis of Nuclear Aspects of Deterrence.**
- 6. Political and Military Implications of Technological Development Concerning Tactical Use of Nuclear Weapons.**
- 7. Major NATO Commanders' General Strike Plans.**
- 8. Nunn Amendment-Nuclear Aspects (letter from the Secretary General to the U.S. Secretary of Defense).**
- 9. The Theater Nuclear Force Posture in Europe-Nunn Report.**
- 10. U.S. Nuclear Weapons Employment Policy.**



NUCLEAR POLICY EVOLUTION

DECADE OF THE 70s

1969

- *Phase I of follow-on use study program began*
- PPGs adopted
- Consultation Guidelines approved

1970

- ADM Guidelines approved
- Strike Role paper adopted

1971

- Weizsacker study
- WINTEX-CIMEX exercise series began

1972

- *Phase II began*

1973

- Able Archer exercise series began
- Army White paper written
- Mini-nuke controversy
- New Technology study

1975

- *Phase II report adopted*
- *Phase III initiated*
- Nunn Report

1977

- HLG established
- Initial SEPs developed

1978

- SACEUR's Initial Use Guidance instituted

1979

- FOFA strategy adopted
- Dual Track decision



NATO TNF POLICY SUMMARY QUESTIONS

- 1) What caused the `event`?**
- 2) How was the decision process or study structured?**
- 3) How did it conclude?**
- 4) How was it implemented?**
- 5) What was the impact?**

NATO'S REQUIREMENTS AND POLICY FOR LRTNF

Lynn E. Davis

Introduction

In a special meeting of Foreign and Defense Ministers, the NATO alliance on 12 December 1979 decided to modernize its long range theater nuclear forces (LRTNF) through the deployment in Europe of 572 Pershing II and ground launched cruise missiles (GLCM).¹ This decision was accompanied by an offer from the United States to the U.S.S.R. to negotiate limitations on these LRTNF which would be global, equal, and verifiable. The story of NATO's dual-track decision as well as the INF Treaty is well chronicled. What is missing is a detailed study of the processes within the United States government and the NATO alliance by which the LRTNF decisions were made. What role did analysis play, and what lessons can be drawn for future policies on NATO's theater nuclear forces?²

Origins of the Dual-Track Decision

When taking office in 1977, President Jimmy Carter's priorities were to improve Soviet-American relations, move quickly to major reductions in strategic nuclear arms, and promote the "internationalistic" goals of human rights and nuclear non-proliferation. Nuclear forces in Europe were of little interest,

This discussion paper was prepared for the Conference on the History of NATO TNF Policy: The Role of Studies, Analysis and Exercises, Sandia National Laboratories, September 12-14, 1990. Lynn E. Davis is a Fellow, The Johns Hopkins Foreign Policy Institute, Washington D.C.

although soon this would change. The negotiations in SALT II stalled over whether and how to place limits on cruise missiles. To break the impasse, Carter proposed in the spring of 1977 a three year ban on testing and deploying ground and sea-launched cruise missiles with a range in excess of 600 km. Soon thereafter, the neutron bomb seized the headlines of news-papers around the world.

The combination of these policies and events provoked considerable unease among Europeans over the American commitment to the future defense of Europe. The Americans had accepted in SALT II parity in strategic nuclear forces without placing any constraints on the superior Soviet theater nuclear forces. Without consultations, the United States in the SALT II Protocol had denied Europeans the development of new cruise missile technologies. All this when the Soviets were deploying new and highly accurate MIRVed SS-20 missiles. Chancellor Schmidt expressed his concern in his now famous speech to the International Institute for Strategic Studies, noting that the advent of strategic parity "magnifies the significance of the disparities between East and West in nuclear tactical and conventional weapons." With superiority in the theater nuclear balance, the Soviet Union would be able to exercise dangerous political influence in Western Europe.

The American response was initially quite casual, with Secretary of State Cyrus Vance and Secretary of Defense Harold Brown proclaiming that neither the advent of nuclear parity nor the Soviet SS-20 missiles would affect the credibility of the American nuclear guarantee. U.S. strategic and forward based nuclear

forces, including the 400 Poseidon warheads, were sufficient to cover any targets of European interest. They also pointed to the new American initiative to improve NATO's conventional defense in the Long Term Defense Program (LTDP). Rather than reassuring the Europeans, their response was interpreted as further evidence that the Americans were not prepared to do what was necessary to provide a credible nuclear guarantee.

The problem was that Americans were divided over the future role of cruise missiles and whether this new technology was stabilizing or de-stabilizing. Program analysts in the Office of the Secretary of Defense saw nuclear-armed cruise missiles as a relatively inexpensive way of freeing up dual-capable aircraft in Europe for their more important conventional missions. The Air Force was skeptical, but the military services were anxious not to give up the possibilities of the new weapon technology. SACEUR, with the support of the JCS, saw cruise missiles as a means of improving his ability to destroy Warsaw Pact targets in an all-out nuclear war. His recent studies had shown a critical dependence upon U.S. strategic nuclear forces to cover targets within the European theater. Finally, a substantial part of the American defense community was hoping that Precision Guided Munitions (PGMs), which included conventional cruise missiles, might provide NATO with the qualitative edge necessary to compensate for Warsaw Pact quantitative superiority in conventional forces.

The supporters of cruise missiles were not, however, as committed as the opponents. Many in the State Department and Arms

Control and Disarmament Agency viewed cruise missiles as extremely dangerous. They would fuel the arms race through their proliferation in large numbers on land and at sea. They were highly destabilizing in that they could not easily be verified. Opponents sought to ban cruise missiles in arms control negotiations, using the analogy of MIRVs in the 1960s--a technology that proved on balance to be extremely de-stabilizing when deployed by both sides. There was also the view held by those who had been involved in the negotiations in the early 1960s for a Multinational Force, the MLF, that the Europeans would not in the end be able politically to sustain public support for the deployment of new nuclear weapons.

These differences were clearly demonstrated in the Administration's response in the summer of 1977 to European requests for briefings on the new cruise missile technology. The British government was particularly interested in exploring the possibility of modernizing its independent deterrent through the deployment of cruise missiles. But the State Department objected, fearing that the Pentagon in any technical briefings would emphasize only the positive contributions. So they took the initiative to draft a Cruise Missile Paper, with the objective ostensibly of presenting the case for and against. The result was in the view of the Defense Department far from even handed, and the compromise draft which finally emerged was vague and in places contradictory. Not surprisingly, the paper satisfied no one.

The Americans had failed to find a consensus as to the opportunities and dangers presented by the new cruise missile

technology. The Europeans became even more insistent in their requests for information. And serious analysis was still to be done, especially as to the potential contribution and effectiveness of cruise missiles for potential NATO missions.

By mid-summer of 1977, dealing with the future of U.S. theater nuclear forces required a more serious and structured American response. The Nuclear Planning Group became the means, for it had been tasked, albeit almost as an afterthought as part of the LTDP, to identify potential remedial measures in the overall NATO theater nuclear posture. The United States proposed the formation of a High Level Group (HLG) to consider the implications for NATO's strategy of flexible response of the condition of strategic parity, the ongoing modernization of Soviet theater forces, and the growing obsolescence of existing NATO nuclear forces.

The HLG convened in the late autumn of 1977 with representatives from eleven nations of the alliance, as well as the NATO and SHAPE staffs. The national representatives were senior officials drawn primarily from the Defense Ministries, and their mandate was to speak "with the knowledge of their governments" but not under formal instruction. The goal was to have a wide ranging discussion, avoiding the structured negotiating processes that usually characterized NATO meetings. The chairman was the American Assistant Secretary of Defense for International Security Affairs. The Americans provided most of the background papers, with the ISA staff taking responsibility for their drafting and coordination within DOD and the rest of the U.S. government.

The American inter-agency process in support of the HLG was rather informal until the spring of 1978, when Carter's inept handling of the neutron bomb affair as well as mounting European pressures for modernization led the Assistant to the President for National Security Affairs to establish a more formal structure with working groups chaired by the NSC staff.

So there were two parallel decision-making processes, one in Washington and one in NATO. In the spring of 1979, a Special Group (SG) was formed under the auspices of the NAC to provide for consultations on nuclear arms control in Europe. The SG consisted of representatives from the Foreign Ministries of all the alliance countries except France. Most of the papers were drafted in Washington and coordinated through a NSC chaired interagency working group. Many of the same people in the United States were involved in the various working groups as well as in the HLG and SG. This helped keep the results complementary and reinforcing.

Process and the Role of Analysis

"Evolutionary Upward Adjustment"

After an initial meeting reviewing developments in the Soviet theater nuclear threat, and particularly the projected capabilities of the Backfire bombers and the SS-20 missiles, the HLG in February 1978 turned to the overall NATO nuclear forces posture--its various goals and current capabilities. The background paper was conceptual in nature, and defined the potential roles for theater nuclear forces (direct battlefield support; interdiction; land-

based deep strike; maritime strike; air defense; and barrier operations/demolition).

For each, a "spectrum of possibilities in TNF program elements" was arrayed from the least to the most. For example, for the land-based-deep strike role the possibilities ranged from no weapons capable of striking into Soviet Union, through a modest capability with US SIOP forces covering most deep targets to "a theater based NATO nuclear deterrent sufficient to meet NATO requirements without recourse to SIOP forces."

No attempt was made to combine these possibilities into alternative force postures, although the choices were implicit: continuing with the existing structure modernized as necessary; moving to a serious battlefield nuclear war-fighting capability; a modest strengthening of the long range elements; and an in-theater capability for major nuclear war.

The HLG participants agreed that NATO's strategy of flexible response should not be changed. There should be no increase in its relative emphasis on nuclear weapons or in the overall size of NATO's nuclear force posture. Very quickly they focused their attention on longer range nuclear forces. Not surprisingly the Europeans showed little interest in new initiatives on short range nuclear forces or in introducing capabilities for fighting a major theater nuclear war. What was surprising was how quickly a consensus seemed to emerge around the table in favor of a shift in emphasis in NATO's nuclear posture to longer range nuclear forces with the possibility of introducing new systems. The primary

arguments for the shift were the increasing obsolescence and vulnerability of NATO's existing LRTNF systems as well as worries that with the advent of strategic parity a gap could be created, at least in the minds of Soviet leaders, in the spectrum of NATO's deterrent capabilities.

The HLG had been convened in response to worries among Europeans as to the American commitment to the defense of Europe. But Europeans and Americans for obvious reasons find it difficult to address directly doubts as to the credibility of the American nuclear guarantee. Indeed, the HLG never did so in the course of its discussions. What happened was that the participants focused instead, almost as a surrogate, on the implications of changes in the strategic environment: strategic parity for the strategy of flexible response; the expanding Soviet theater nuclear threat for the spectrum of deterrence. But even these are highly abstract concepts and open to a variety of interpretations and judgments. So discussions naturally moved on to more concrete issues involving the capabilities and deficiencies in NATO's nuclear forces, as a means indirectly of addressing the broader political and strategic issues. The consensus of the HLG meeting in favor of "an evolutionary upward adjustment in the long range component of NATO's nuclear posture" emerged as a result of this process, and not a Defense Department plot.

A bureaucratic storm, nevertheless, immediately erupted in Washington. The NSC staff believed they had lost control of the inter-agency process, even though they had been involved, at least

at lower levels, in the preparations for the HLG meeting. Opponents of cruise missiles were outraged. Others saw another neutron bomb morass on the horizon. For the spring 1978 meeting of the NPG, the language in the HLG report included the phrase in favor of an "evolutionary upward adjustment in NATO's LRTNF, but the language was sufficiently nuanced with calls for further studies so as to permit American agreement to its transmittal.

The next stage of the HLG deliberations was postponed to give the United States an opportunity to come to a view as to the future role for new long range theater nuclear forces. The NSC called for a study on Long Range Theater Nuclear Capabilities and Arms Control, President Review Memorandum (PRM) 38, which involved four main parts: an overview of NATO strategy including the requirements for strategic coupling as well as the perspectives of the different European governments; the military rationale and range of options for modernizing NATO's LRTNF; the potential objectives of arms control; and an intelligence assessment of Soviet theater nuclear capabilities. The study itself provided a range of policy options, but the issues were fairly straightforward.

In the course of the PRM-38 discussions, it was clear that the United States needed to respond directly to European anxieties about the credibility of the American nuclear guarantee. The question was whether this could be accomplished politically (through diplomacy and arms control) or would require the deployment of new nuclear weapons. Long range theater nuclear forces could be viewed as coupling (by their capability to strike

the Soviet Union and thereby put at risk the American homeland) or de-coupling (by potentially postponing the use of U.S. strategic nuclear forces). The question was what would be the German view, for this would be decisive. Cruise missiles were the obvious candidate for modernization, but there was now the additional possibility of extending the range of the Pershing II ballistic missile.³

In terms of arms control, Soviet-American negotiations would need to be expanded to include theater nuclear forces. The most important issue was whether arms control was to be viewed as a complement or alternative to modernization. The United States would also need to determine the specific arms control objectives and framework, with the American interest in ensuring flexibility in negotiations with the Soviet Union and in avoiding having its strategic nuclear forces equated with Soviet theater nuclear forces.

The differences in Washington were resolved only to the extent that the United States would support an "evolutionary upward adjustment in NATO's LRTNF", if this remained the view of the Europeans.

Fears persisted that European support would fade when faced with the reality of deploying the missiles and the certain public opposition. President Carter and most of his senior advisers preferred arms control to the deployment of new nuclear missiles. But the Administration concluded that LRTNF modernization was necessary to blunt rising criticism at home and abroad over the

SALT II Protocol and its handling of alliance matters in connection with the neutron bomb debacle. Modernization of LRTNF would, nevertheless, be limited in scale to avoid any perception of a decoupling of U.S. strategic nuclear forces and would be linked with negotiations to reduce Soviet theater nuclear forces. Limits would be negotiated in a follow-on to the SALT II treaty so as to avoid the appearance of creating a separate Euro-strategic balance.

The HLG was tasked to define the nature of a potential modernization. The PRM-38 analysis of modernization options was turned into a HLG background paper, with only a few changes and deletions. One made at the behest of the State department was to eliminate the option of matching the Soviet LRTNF posture (some 2,500 warheads), for fear it would be viewed by Europeans as indicating an American willingness to decouple entirely its strategic nuclear deterrent. The PRM-38 analysis of arms control possibilities was turned into a discussion paper for high level consultations with the major European powers on the desirability of a parallel arms control track. The National Security Adviser, Zbigniew Brzezinski set off in the early autumn of 1978 for private conversations with senior officials in the major European capitals to relay this American view and to ensure that European leaders at the very highest political levels would be involved in the upcoming consultations. A consensus formed would need to be sustained.

Criteria for Modernization

In the autumn of 1978, the HLG reconvened to review the range of possibilities for modernizing NATO's LRTNF. The U.S. paper provided nominal force postures ranging from a minimum number of some 100 warheads through to one "of over 1000 warheads."⁴ These force postures varied as to their weapon systems: GLCM, Pershing II missiles with extended range, a new medium range ballistic missile, sea-launched cruise missiles (SLCM), and fighter bombers equipped with air-launched cruise missiles (ALCM). Each of these force postures had specific strategic objectives, and for each the military capabilities as well as political and arms control implications were described. The HLG discussions proceeded upon the need for "an evolutionary upward adjustment in NATO's LRTNF", and moved on to define criteria for modernizing NATO's nuclear posture. The new LRTNF posture would:

- involve the deployment of some 200-600 warheads, sufficient to provide a credible deterrent but not so large as to decouple or replace the U.S. strategic nuclear guarantee;

- demonstrate visibly through its basing the American commitment to the defense of Europe;

- have the capability for striking targets in the Soviet Union, but not necessarily Moscow;

- ensure adequate survivability, although not against a "bolt out of the blue nuclear attack", for which U.S. strategic nuclear forces were maintained;

--not increase the overall size of NATO's nuclear stockpile; and

--involve widespread participation in basing, for West Germany made clear that its territory would not be singled out for the new deployments.

The military rationale for the new LRTNF was not so easy to define. The JCS and SACEUR were of the view that the new weapons would enhance NATO's capability in Europe for conducting an all-out nuclear war, and should be planned for the objectives of repelling an invasion and affecting directly the military situation on the battlefield. The Europeans and most Americans envisaged a more political and escalatory role for these new weapons, based on their capability for limited strikes against the Soviet homeland. Finding language to bridge these differences in a HLG paper ultimately proved impossible. The actual drafting broke down over whether to include as an objective of these LRTNF to "create shock and decisiveness", catchwords of the military for nuclear warfighting. As a result, the HLG paper simply catalogued the many potential military objectives which LRTNF could serve, and was attached (buried) as an appendix to the final HLG report.

At the same time, the SHAPE representative to the HLG offered to provide an analysis of the capabilities of future LRTNF forces for meeting SACEUR's targeting requirements. SACEUR has two different tasks in planning for the employment of NATO's theater nuclear forces: to provide options for selective or limited use and to execute in conjunction with the U.S. SIOP a plan for general

nuclear war. In his planning, he draws on his current threat assessment which in the late 1970s included several thousand mobile and fixed targets in Eastern Europe and the Soviet Union.

Fears immediately arose that such a SHAPE analysis would generate open ended requirements for new LRTNF weapons. General Al Haig was known to be uncomfortable with the growing consensus within the HLG for a deployment of only some 200-600 LRTNF warheads. A compromise was struck. SACEUR would provide the HLG with an analysis of how LRTNF would contribute to his existing targeting plans for selective use. Using the criteria agreed in the course of the HLG discussions, the United States would define a range of LRTNF force postures, and provide an analysis of their individual effectiveness against a representative set of military targets as well as their cost.⁵

Designing the LRTNF Force Posture

Government officials in the various NATO capitals were on track for a modernization decision by the end of 1979 when the leaders of the United States, United Kingdom, France, and West Germany met in Guadaloupe in early 1979. Anxious to avoid having nuclear issues once again disrupt the alliance, they agreed to proceed with planning for the modernization of longer range nuclear forces and to initiate consultations for parallel arms control negotiations. The leaders did not, however, formally commit their governments to either modernization or arms control.

As a result of the Guadalupe Summit, the Deputy Assistant to the President for National Security Affairs began a series of bilateral consultations in the major European capitals where he outlined various possibilities for modernizing LRTNF and how negotiations might proceed. He sought to give the Europeans confidence that President Carter was personally committed to the process of LRTNF modernization and arms control and to prevent divisions from arising between the Americans and Europeans as public opposition in Europe to the new missiles began to emerge. For these consultations, he drew on the HLG analysis of modernization options being done in the Defense Department and ACDA's analysis in PRM-38 of arms control objectives.

The HLG reconvened in the winter of 1979 to consider the American and SACEUR studies. The SHAPE staff put together a briefing showing how the missiles could be expected to expand the capabilities for selective nuclear employment. The U.S. study defined LRTNF force postures at levels of 200, 400, and 600 warheads, with variations shown in terms of the kinds of forces (aircraft and missiles; ballistic and cruise missiles; land and sea-based cruise missiles). The costs were estimated for each LRTNF force postures, as well as the capabilities against a set of military targets primarily in the Soviet Union but also in Eastern Europe.

The studies produced no real surprises. Somewhat naively some of the participants in the HLG, including some Americans, believed that these analyses would produce the "single right answer".

Analysis could inform, but not replace, political and military judgments. The studies, nevertheless, did point to some of the problems and uncertainties associated with the individual LRTNF systems.

Pershing II missiles were extremely expensive if deployed in numbers greater than the 108 replacing the existing Pla missiles in West Germany, for additional personnel and new infrastructure would be required. Sea-based cruise missiles were the most cost effective when deployed on existing submarines and surface ships, but given the competing missions of these ships, their availability would be in doubt. SLCM on dedicated platforms were prohibitively expensive. Dual-capable aircraft were vulnerable to preemptive attack and to being destroyed during the conventional phase of a war. Cruise missiles would need to penetrate Soviet air defenses, thereby degrading their potential military effectiveness.

The HLG report to the NPG in the spring of 1979 defined in more detail what an evolutionary upward adjustment in NATO's LRTNF in the range of 200-600 warheads would entail. While not ruling out sea-basing of the new systems, land based missiles were preferred for their visibility. Dedicated and mobile nuclear missiles were more attractive than dual-capable aircraft in terms of survivability. A mix of cruise and ballistic missiles offered the possibility of widespread basing and was militarily the most effective in hedging against the uncertainties of a single system. Pershing II won out over a new MRBM because of its earlier date of planned deployment. The NPG approved the report, and the stage was

set for the United States to define a specific LRTNF modernization program.

The Defense Department proposed four LRTNF postures consistent with the various criteria agreed in the HLG. One involved 200 Pershing II missiles, and the other three a mix of GLCM and Pershing II missiles in the range 300-600 warheads. Each of these had 108 Pershing II missiles, plus GLCM deployed as the Air Force planned in squadrons of 16 missiles and in five NATO countries (UK, FRG, Italy, Netherlands, and Belgium), with the relative share figured on the national size and availability of bases in those countries.

There were still marked divisions within Washington as to what the modernization should be, with the JCS supporting the largest deployment within the 600 ceiling, or 572 LRTNF missiles. Many in ACDA still clung to the view that GLCM were de-stabilizing and argued for a force posture only of Pershing II missiles. Brzezinski weighed in favor of the JCS, wishing to demonstrate the American readiness to meet Soviet power as the SALT II ratification debate approached. He argued that the higher number of 572 warheads would provide bargaining leverage against the large and already deployed SS-20 force. And in all likelihood, the force posture would be reduced by the Europeans or as a result of arms control. Secretaries Brown and Vance acquiesced.

As for arms control, the United States decided to propose negotiations separate from SALT, but in the SALT III framework, with the objectives of setting equal limits on all U.S. and Soviet

land based missile warheads. This step buttressed the emerging public rationale for LRTNF in countering the SS-20s.

In the course of the rest of the summer, the United States pursued intensive bilateral consultation with the five potential basing countries to gain their support for the deployment of long range missiles. The Europeans generally would have preferred a smaller number to the 572 warheads, but agreed with the Americans, especially once the number leaked to the press. Any reduction in the modernization program would give the appearance of weakness, thereby undermining the Carter Administration's effort to demonstrate leadership in the alliance and win support for the ratification of SALT II. In the course of these consultations, further details were added to the modernization program. The new missiles would be deployed only with American forces. Europeans rejected programs of cooperation whereby they would have owned and operated the missiles systems with the United States providing the warheads. They were not prepared to pay the costs, and for the West Germans they did not wish to deploy systems with the capability of striking the Soviet Union. The Europeans did agree that part of the costs would be covered by NATO infrastructure funding.

The HLG completed its report in September 1979, and with its conclusion politicians took over the task of selling the modernization program to their publics.

Objectives and Principles of Arms Control

The Special Group on Arms Control convened in the spring of 1979 and produced by September a paper outlining the Objectives and Principles to guide the United States in future negotiations on LRTNF. The negotiations would seek global limits on LRTNF so as avoid the appearance of de-coupling through the establishment of a separate Euro-strategic balance. Limits would be sought at equal levels below the projected Soviet SS-20 program. There would be no constraints on British or French nuclear forces. Europeans would have preferred that the limits on LRTNF be integrated with those of strategic nuclear forces, but they acquiesced in the strong American view that the negotiations remain separate, in part to get these underway as the ratification of the SALT II treaty became more uncertain.

The critical issue of how modernization would be linked with arms control was, however, never actually resolved. The language in the Special Group report stated that arms control should be "a complement to, not a substitute for, LRTNF modernization." It went on to suggest that "negotiations involving LRTNF will not be realistic or possible without an agreed modernization plan and a decision to implement it." But the final Integrated Decision Document, at the request of the West German and Dutch governments, included the theoretical possibility that arms control could obviate the need for any modernization. The NATO Communique issued on 12 December 1979 stated simply that arms control could modify the scale of NATO's TNF deployments. So the seeds were sown for

President Reagan's proposal in 1981 to eliminate all LRTNF missiles and ultimately for the conclusion of the INF Treaty.⁶

In the course of the final political consultations leading to the dual-track decision in December 1979, the recommendations of the HLG and SG remained essentially unchanged. The United States rejected various proposals from the Dutch to postpone and then reduce the modernization program pending the results of negotiations. It did, however, agree that the number of Dutch nuclear roles could be reduced if GLCMs were deployed in Holland. The United States also objected to hints from Chancellor Schmidt that he might favor sea basing rather than land basing of cruise missiles, pointing out their military deficiencies in control and responsiveness as well as the Chancellors' strong initial support for visibility in basing. When General Secretary Brezhnev announced in the autumn of 1979 a unilateral reduction in Soviet conventional forces of 20,000 men and 1,000 tanks in Europe, NATO responded with an offer to remove unilaterally 1,000 of its older nuclear warheads, which had been maintained in Europe as a bargaining chip in the MBFR negotiations. In the end, the alliance agreed unanimously to the twin modernization and arms control tracks, with the Netherlands and Belgium deferring their decisions on basing in their own countries.

Analysis in Washington

In the course of the HLG discussions, the Defense Department, under the auspices of the Under Secretary for Research and

E Engineering, conducted additional analyses on the military
c capabilities and effectiveness of the new long range missiles. The
m most important of these were studies of the penetrativity of the
G GLCM and the survivability of Pershing II. The Army was particu-
l larly concerned with the potential threat of Soviet special
o operations teams. The results of these studies were briefed to the
H HLG and generally accepted. Only in the case of the analysis of
t the capabilities of cruise missiles to penetrate Soviet air
d defenses did the Europeans express real doubts. They were
p particularly skeptical that the missiles could be as effective in
l limited attacks, and believed that the analysis was colored by
C Carter Administration's desire to sell ALCMs in place of the B-1
b bomber.

c Conclusions

The process by which NATO's dual track decision emerged
i involved a variety of different kinds of analysis, for the most
p part descriptive in the presentation of various choices of weapon
s systems and force postures but also more quantitative calculations
c of military effectiveness and costs. Given the origins and
c objectives of modernizing long range nuclear weapons, no actual
n modelling or war gaming analysis was undertaken. These analyses
h helped clarify thinking and provided a basis for discussions in
W Washington and in NATO. The actual decisions called for political
a and military judgments.

For strategic nuclear forces, a general consensus has evolved over the past decade as to their overall objectives as well as the various kinds of targets which need to be put at risk. So a new weapon system can be analyzed in terms of its potential contribution to these objectives and to destroying specific target sets, given assumptions as to its survivability and ability to penetrate enemy defenses. There has also developed a view of what constitutes strategic stability in terms of incentives to preempt in a crisis. Various strategic force postures can then be evaluated on the basis of dynamic quantitative analyses.

None of these existed for long range theater nuclear forces. The objectives were primarily political rather than military, and those that were military remained in dispute. There was no agreed set of targets to be put at risk, for either selective employment or all-out nuclear war. The targets were also not unique, as most were also covered by U.S. strategic nuclear forces. Stability in Europe is a function of a combination of military forces, not simply theater nuclear forces. As a result, the kinds of analysis which were appropriate to the LRTNF decision making process were different from those of strategic nuclear forces and of a very limited nature. Alternative LRTNF force postures were defined and their capabilities assessed against a representative set of military targets. But the criteria for deciding on the actual LRTNF force posture was based on a far more complex set of political and military considerations.

From hindsight the decision has been criticized for having finessed rather than resolved differences over the strategic objectives to be served by the LRTNF deployments. A variety of objectives were delineated, and the actual linkage between modernization and arms control was left ambiguous. Political imperatives rather than strategic or military requirements dominated. More or different kinds of analysis would not have made any difference.

Can any lessons be drawn from the LRTNF experience for future NATO policies? The NATO Summit in July 1990 agreed on the need to modify the strategy of flexible response to reflect a reduced reliance on nuclear weapons. It called for the maintenance of an "appropriate mix of nuclear and conventional forces in Europe, kept up to date where necessary." Negotiations on short range nuclear forces are promised upon the signing of the CFE agreement. NATO has also agreed to withdraw all its nuclear artillery shells from Europe in return for reciprocal action by the Soviet Union.

What is lacking is an overall strategic rationale for U.S. nuclear weapons in Europe given the remarkable developments that have occurred in the Soviet Union and Eastern Europe. The NATO Summit communique language simply suggests nuclear weapons will now be weapons of last resort. The issue is what will be the goals of U.S. nuclear weapons now that the Soviet military threat has essentially disappeared in Europe and the conventional balance has shifted to the West's favor. Till NATO can answer that question, it will find it difficult, if not impossible, to define moderniza-

tion and arms control policies which can be expected to command public support. While not including agreement on a specific military objective and leaving ambiguous the link between modernization and arms control, the LRTNF decision was based on a general strategic view as to the contribution of nuclear weapons to NATO's strategy of flexible response. The important lesson is that for future nuclear policies the alliance must come to such a view and define an overall strategic rationale for U.S. nuclear weapons in Europe, notwithstanding the intellectual and political difficulty.

ENDNOTES

1. LRTNF refers to weapon systems with a range greater than 1,000 km. In 1981, the Reagan Administration adopted the term Intermediate Nuclear Forces (INF) for these same systems.
2. This discussion draws on an unpublished paper by James A. Thomson, "Evolution of U.S. Theater Nuclear Policy: 1975-1979"; a Report prepared by Simon Lunn for the Library of Congress, Congressional Research Service, "The Modernization of NATO's Long-Range Theater Nuclear Forces," 31 December 1980; Ivo Hans Daalder, The Nature and Practice of Flexible Response: NATO Strategy and Theater Nuclear Forces, to be published by Columbia University Press in 1991; and the personal recollections of the author who was Deputy Assistant Secretary of Defense for Policy Plans, International Security Affairs, 1977-1980.
3. The Army had a Pershing II program underway to replace the Pershing Ia missiles in the Federal Republic of Germany, but it had suffered from delays and lack of Congressional support. In late 1977, the contractor Martin Marietta saw the growing interest in NATO for new long range systems as an opportunity to gain support for its Pershing missile, and began briefing officials in Washington about the possibility for extending the range of Pershing II to some 1800 km. They found particular support among officials in the State Department and ACDA who remained opposed to deployments of cruise missiles.
4. Recent studies of the LRTNF decision point to analyses prepared by the U.S. Defense Nuclear Agency, the Defense Science Board, and SHAPE calling for some 1,500-2,000 new missile warheads to cover Warsaw Pact targets viewed by SACEUR as threatening NATO. These may have influenced the views of the Joint Chiefs of Staff, but none provided a basis for the analysis presented in the HLG papers.
5. The actual analysis for this HLG study was carried out by SAIC Inc, through a contract supported by funds from all the various agencies in the Department of Defense involved in the work of the HLG.
6. For a discussion of the lessons of the INF Treaty drawn by the author, see Foreign Affairs, Spring 1988.

Operations

Depths of Objectives

Second Echelons

Front
Initial

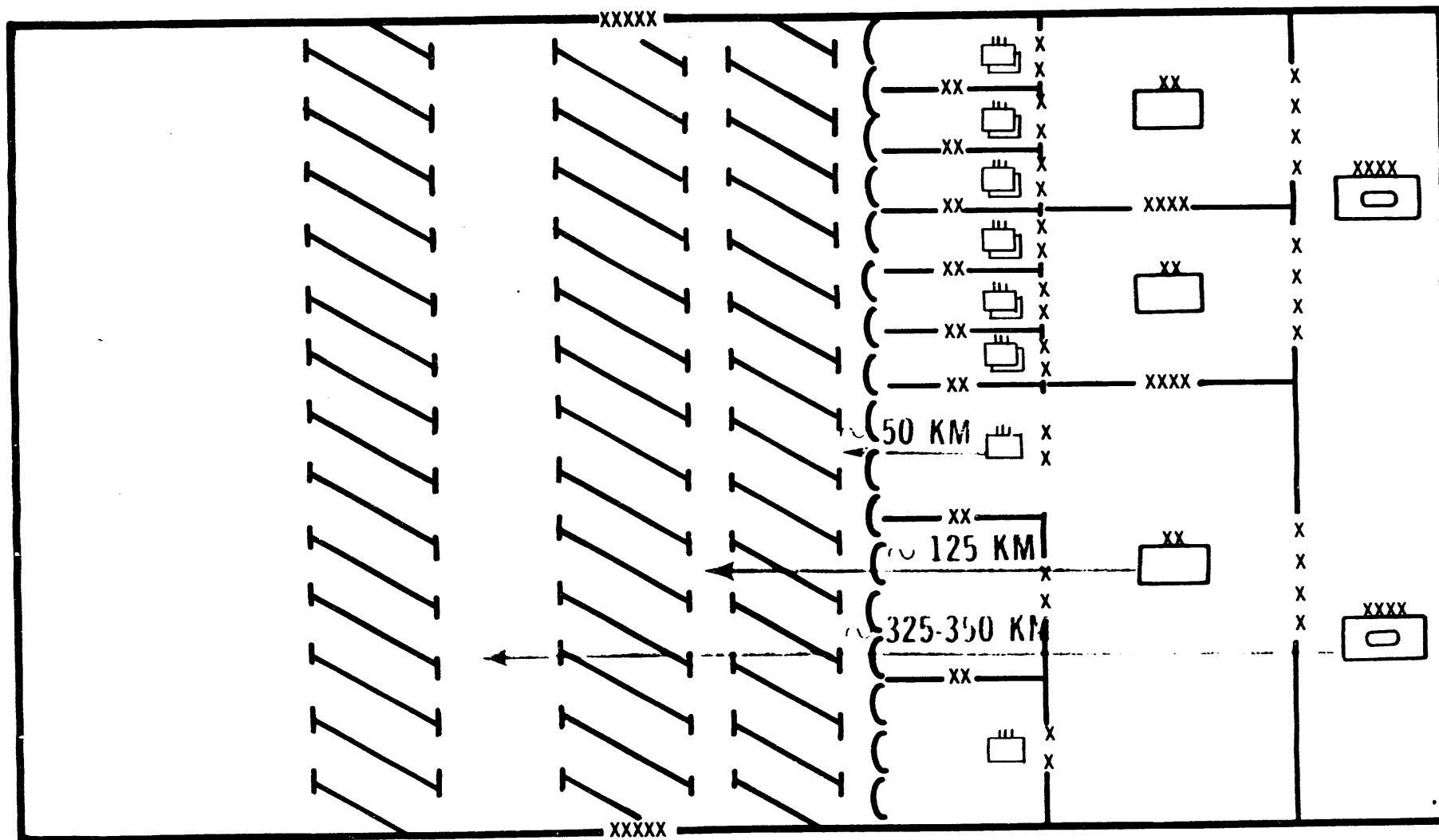
Army
Initial

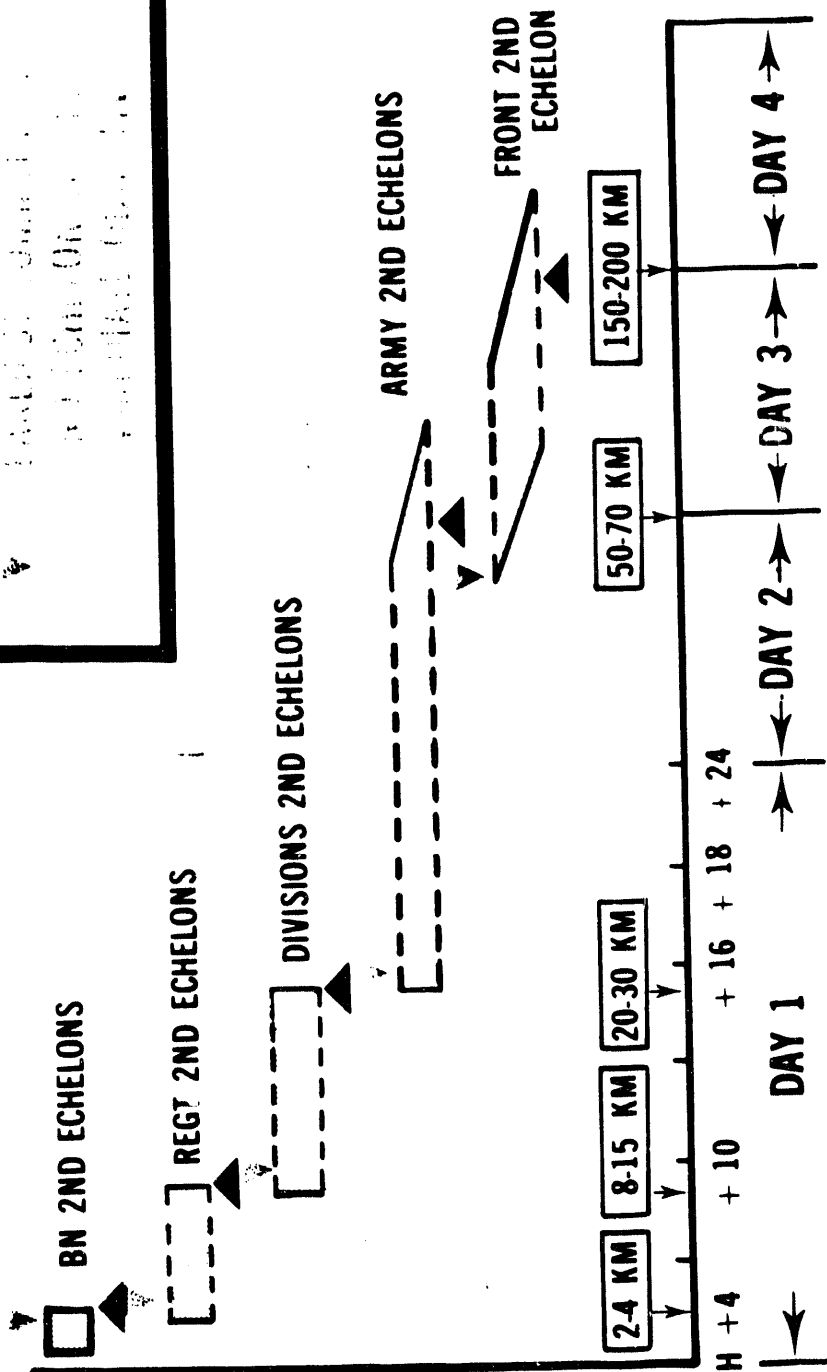
Div
Initial

FEBA ~ 20 KM

~ 50 KM

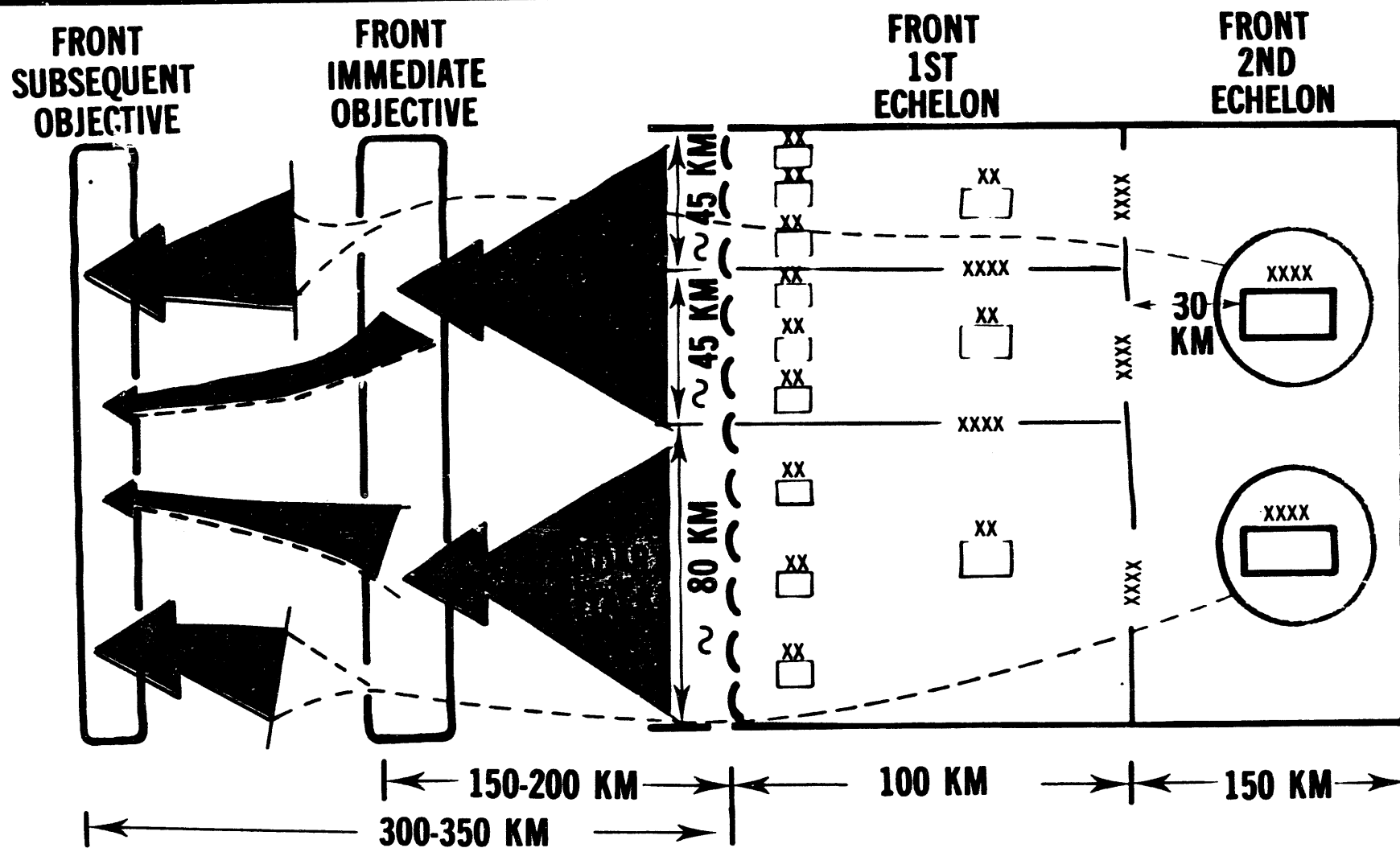
~ 125 KM





▲ **PLANNED COMMITMENT OF 2ND ECHELON TO SEIZE SUBSEQUENT OBJECTIVE**

▲ **Planned Commitment of 2nd Echelon to Seize Subsequent Objective**



UNIQUE ASSESSMENT ACTIVITIES

- 0 MULTI-SPONSOR, MULTI-METHODOLOGY THREAT ASSESSMENTS
- 0 INTELLECTUALLY COMPETITIVE CIRCUMSTANCES
- 0 PERFORMED PRINCIPALLY FOR:
 - OPERATING COMMANDS
 - OSD
- 0 FOCUSED ON SOVIET CONCEPTS OF OPERATION FOR THEATER CONFLICT:
 - INDEPENDENT AIR OPERATIONS
 - NUCLEAR MASSED STRIKES
 - EMPLOYMENT OF ECHELONED FORCES
 - OPERATIONAL MANEUVER GROUPS
 - PRO-SUBMARINE OPERATIONS
 - TACTICAL COMBINED ARMS OPERATIONS

AREA FOR REPRESENTATIVE FRONT, ARMY, DIVISION

PERSONNEL

	<u>FRONT</u>			<u>ARMY</u>			<u>DIVISION</u>		
	W		D	W		D	W		D
1945	100	x	40 KM	20	x	10 KM	2-3	x	3 KM
	80,000			23,000			5,000		
1960-1965	250	x	350 KM	75	x	100 KM	25	x	35 KM
	150,000			44,000			8,500		
1970	165-230	x	180 KM	80	x	100 KM	20	x	30 KM
	230,000			63,000			12,000		

DENSITY
DIV # KM²

500

10

20

RESULTING IMPROVEMENTS

- 0 MORE ROBUST CONVENTIONAL FORWARD DEFENSE
- 0 BETTER BALANCED CAPABILITIES FOR DELIBERATE ESCALATION WITH MEANINGFUL SEPs
- 0 MORE CAPABLE DEPLOYED AND DEPLOYABLE AIR DEFENSES
- 0 IMPROVED COUNTER AIR OPERATIONS
- 0 FOFA
- 0 AIRLAND BATTLE

BACKGROUND

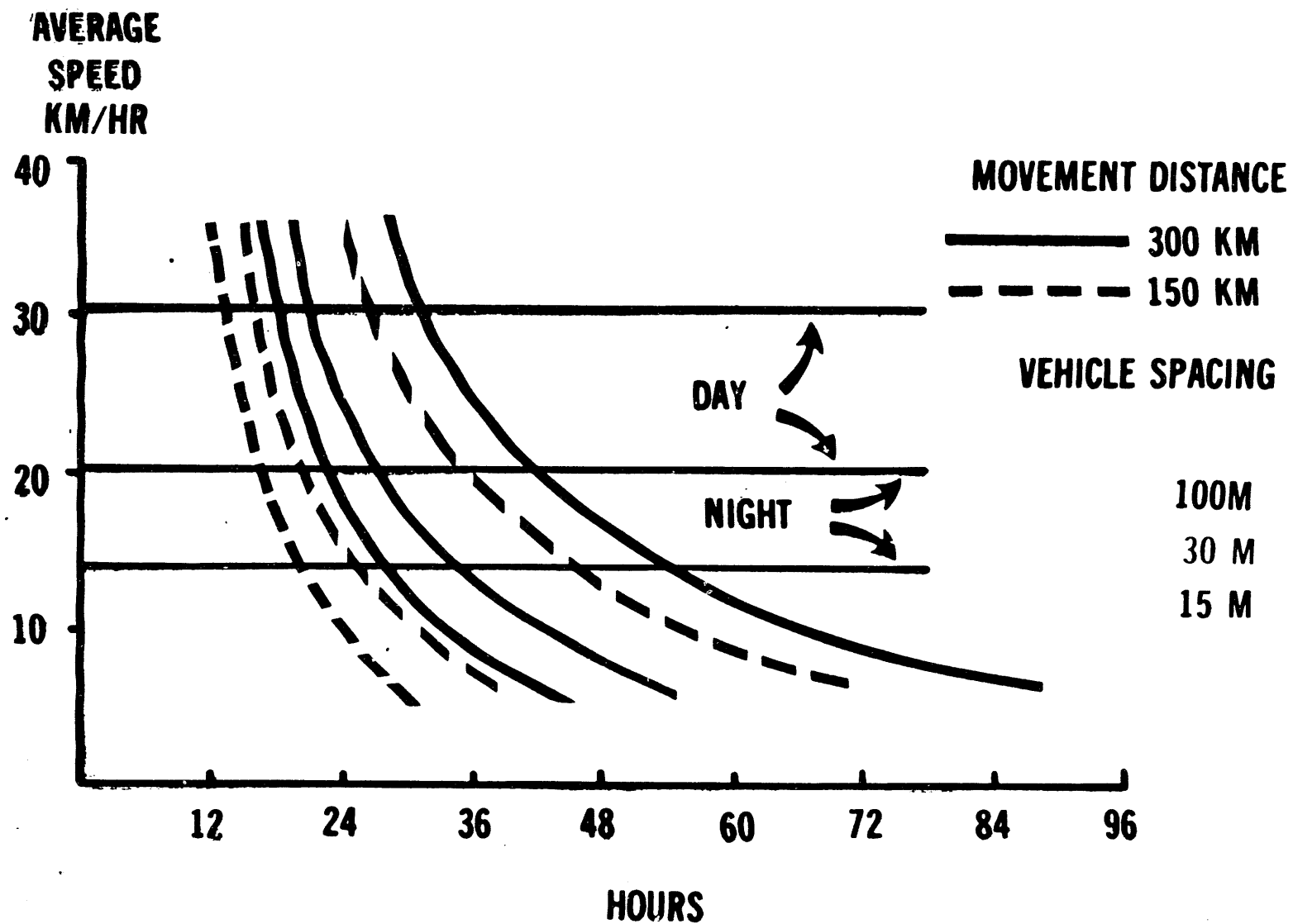
- 0 GROWING RECOGNITION OF THE DEPTH AND BREADTH OF SOVIET MODERNIZATION
- 0 MOTIVATION AND AVAILABILITY OF TECHNOLOGY FOR BROAD NATO MODERNIZATION
- 0 OPPORTUNITIES FOR OPERATIONAL INNOVATION

ADDITIONAL VIEWGRAPHS

- DIAGRAM OF SOVIET CONCEPT OF OPERATIONS
- DENSITY IMPACT
- IMPLICATIONS FOR STRIKE CYCLE IMPROVEMENTS
- SENSOR SUITES
- PICTURES FROM EXPERIMENTS
- NUCLEAR FOFA RESULTS
- TRANSITION TO CONVENTIONAL
 - SHAPE
 - TRADOC

UNCLASSIFIED
Essential Elements of Analysis

1. WHAT IS THE PROJECTED CAPABILITY OF NATO TO SERVICE SECOND ECHELON DIVISIONS IN THE 1984 TIME FRAME?
2. WHAT IS THE VULNERABILITY OF WARSAW PACT SECOND ECHELON DIVISIONS TO NATO OPTIONS?
3. WHAT ARE THE CAPABILITIES OF TARGET ACQUISITION IN THE 1984 TIME FRAME?
4. WHAT NUCLEAR WEAPONS ARE REQUIRED TO HOLD WARSAW PACT SECOND ECHELON DIVISIONS AT RISK?
5. WHAT OTHER CAPABILITIES/MEASURES ARE REQUIRED TO ENSURE EFFECTIVE EMPLOYMENT OF REQUIRED NUCLEAR WEAPONS?



INDICATOR

DEVELOPING TARGETING SYSTEMS

"CLASSICAL"

INDICATIONS	USE OF SENSORS	PROCESSING	PLAN	RELEASE	STRIKE/
-------------	----------------	------------	------	---------	---------

"CURRENT IMPROVEMENT" (NATO 1979)

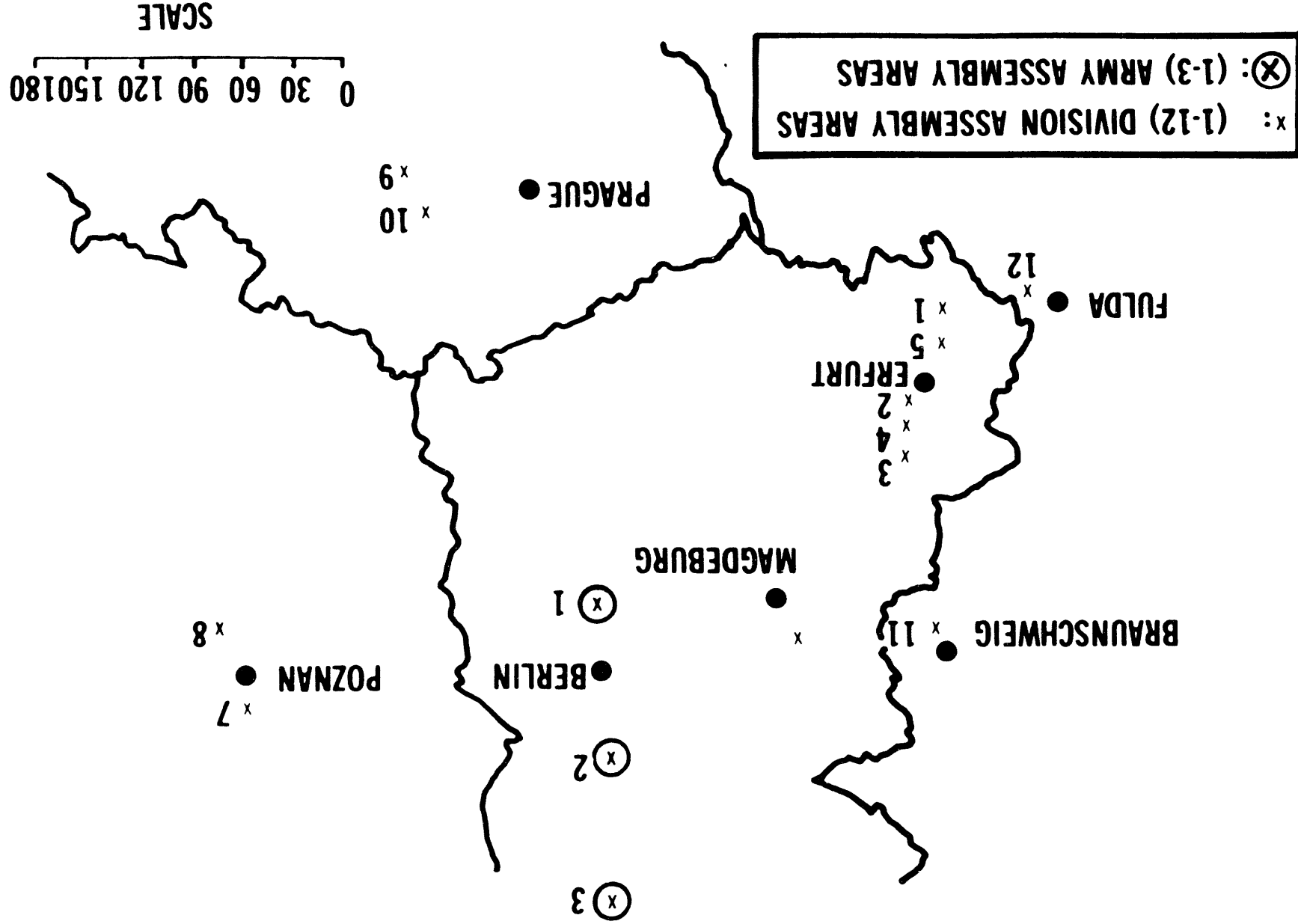
MAP ANALYSIS	<ul style="list-style-type: none"> • AREA DGZ CONCEPT 	USE OF SENSORS	RELEASE	STRIKE /
	<ul style="list-style-type: none"> • ATTACK PACKAGES (SEP) 	PROCESSING		
	<ul style="list-style-type: none"> • PRE-RELEASE PROCESSING 			

"SUGGESTED IMPROVEMENT" (2ND ECHELON TARGETING)

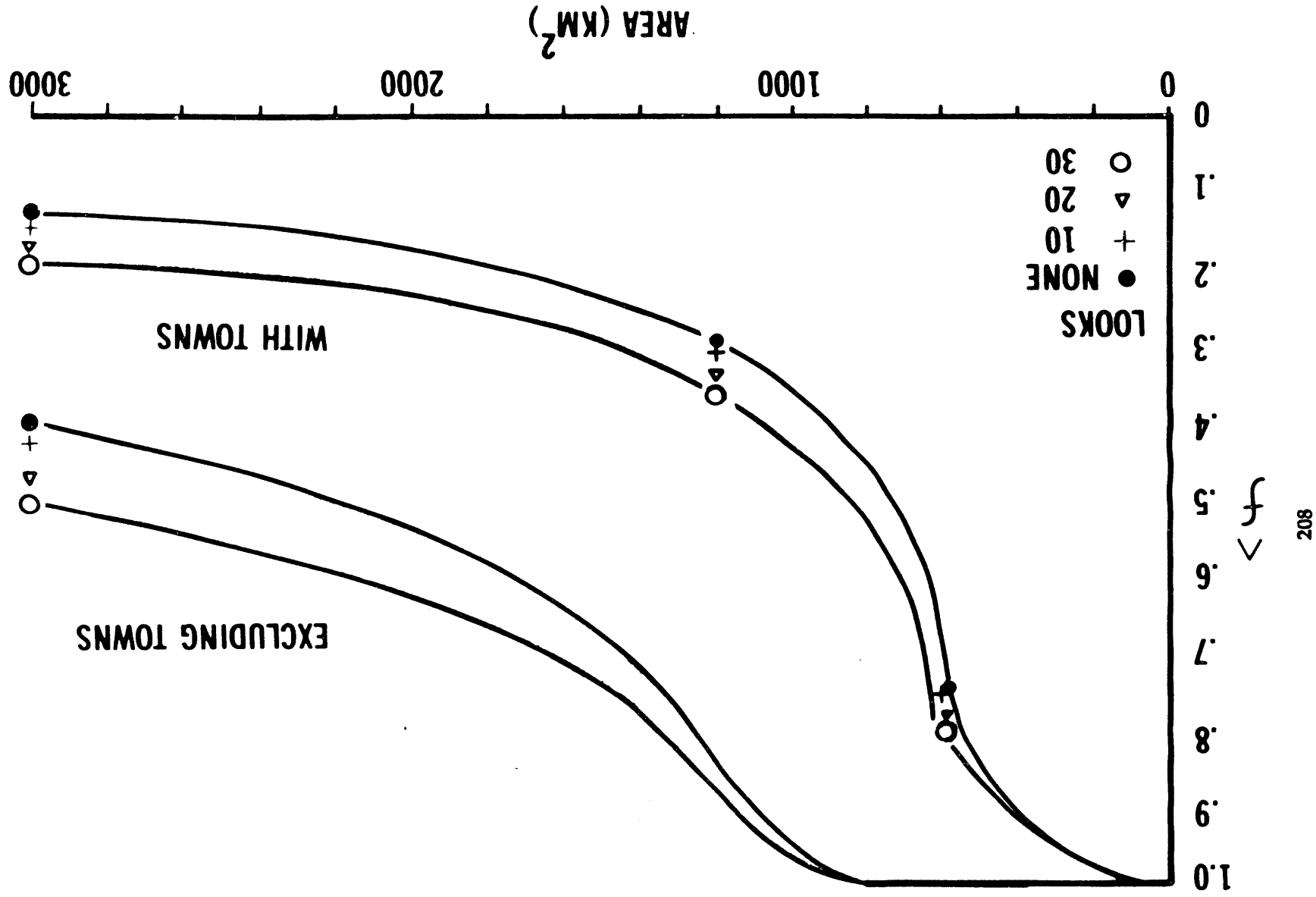
SOVIET OPERATIONS AND NORMS	<ul style="list-style-type: none"> • PREPLANNING AGAINST LIKELY LOCATIONS • ATTACK PACKAGES 	<ul style="list-style-type: none"> • PREPLANNED USE OF SENSORS 	STRIKE /
MAP ANALYSIS	<ul style="list-style-type: none"> • SENSOR CUEING • PRE-RELEASE PROCESSING 	<ul style="list-style-type: none"> • PROCESSING • RELEASE 	

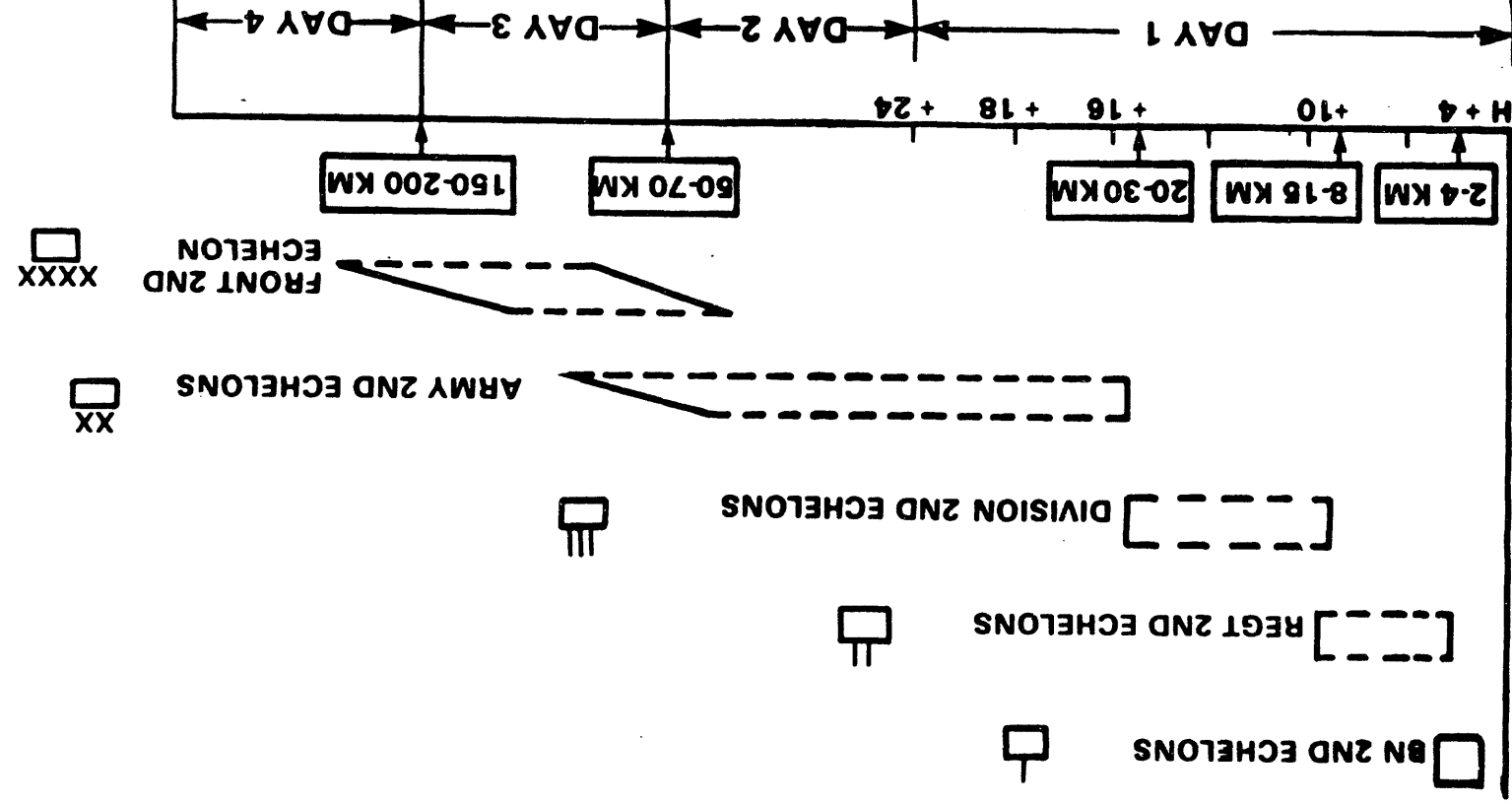


Relative Locations of Possible Assembly Areas Analyzed

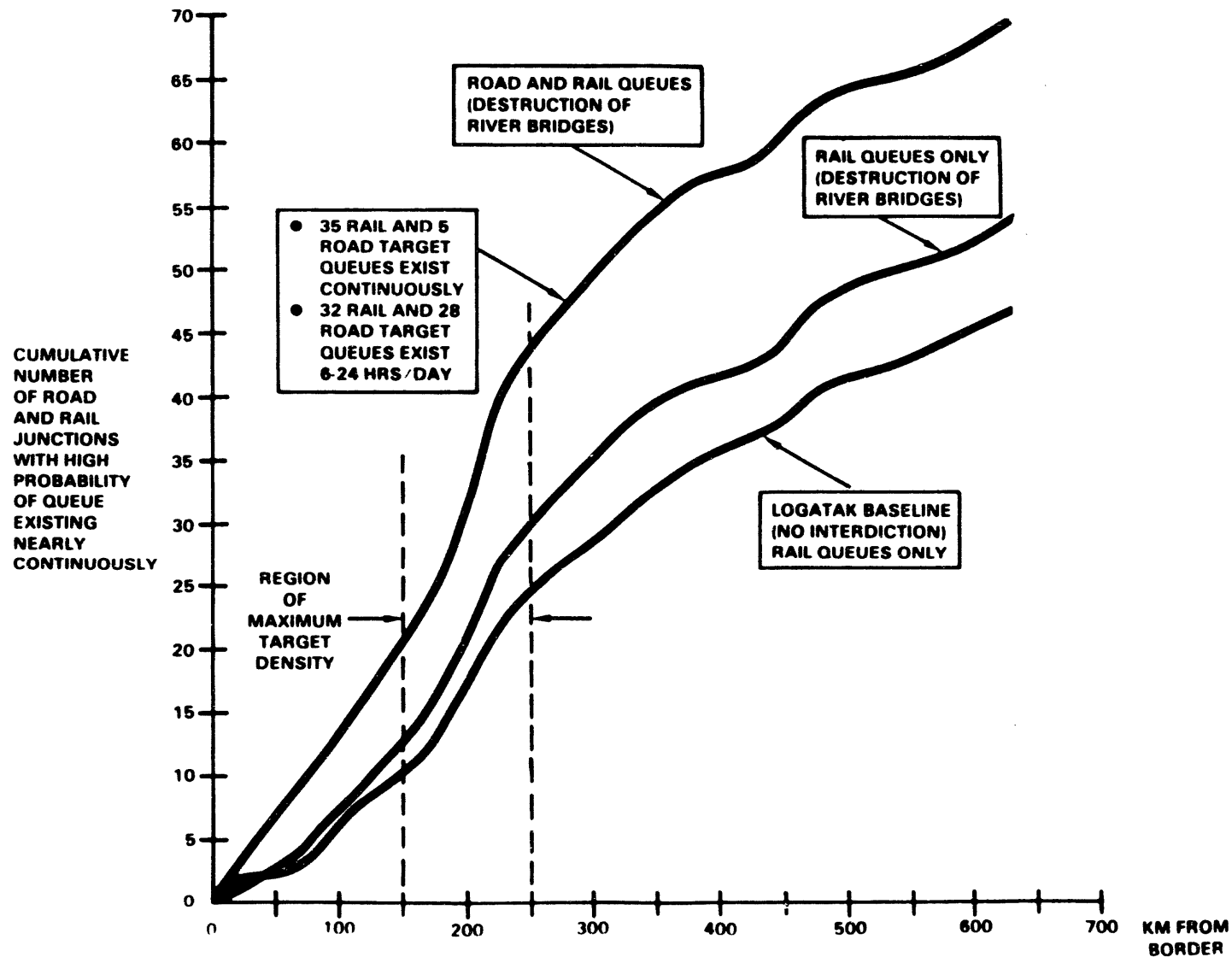


NATO Capability to Locate Battalion Elements of a Division after Having Localized it

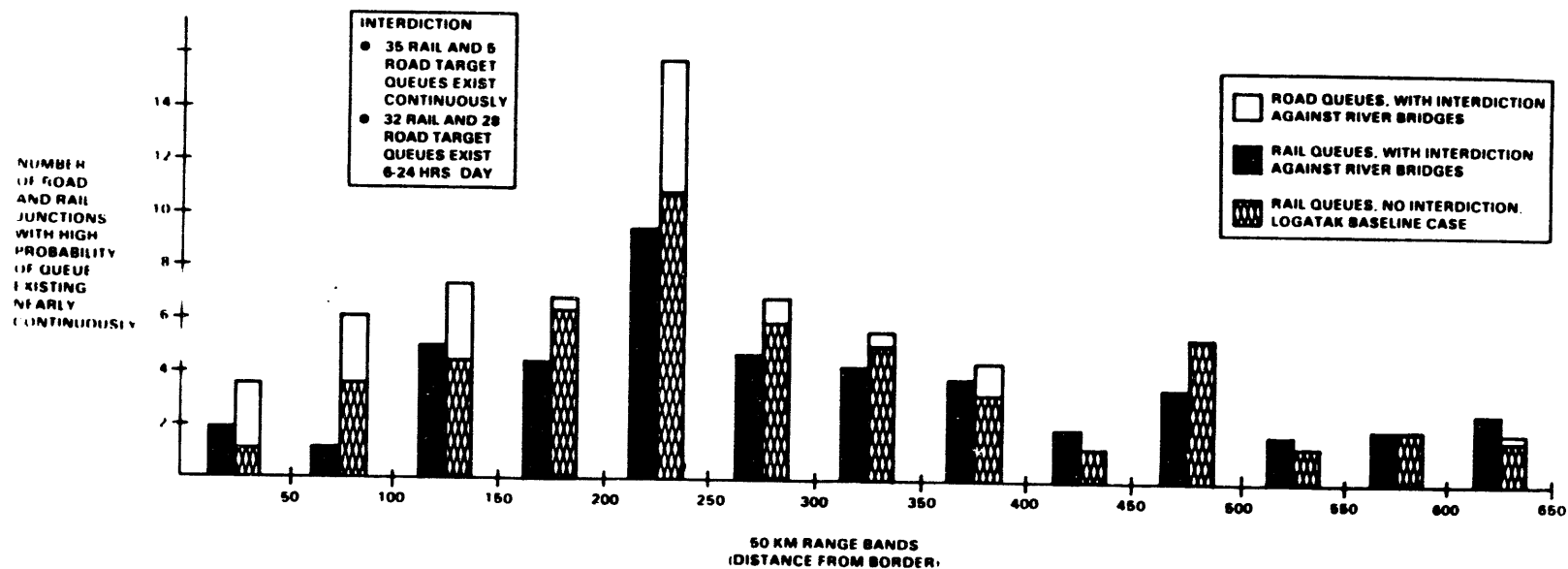




**(U) SECOND ECHELON QUEUES (ONE OR MORE BATTALIONS)
AT 67 RAIL AND 33 ROAD JUNCTIONS, D-DAY TO D+9, 2/4
SCENARIO, WITH INTERDICTION**

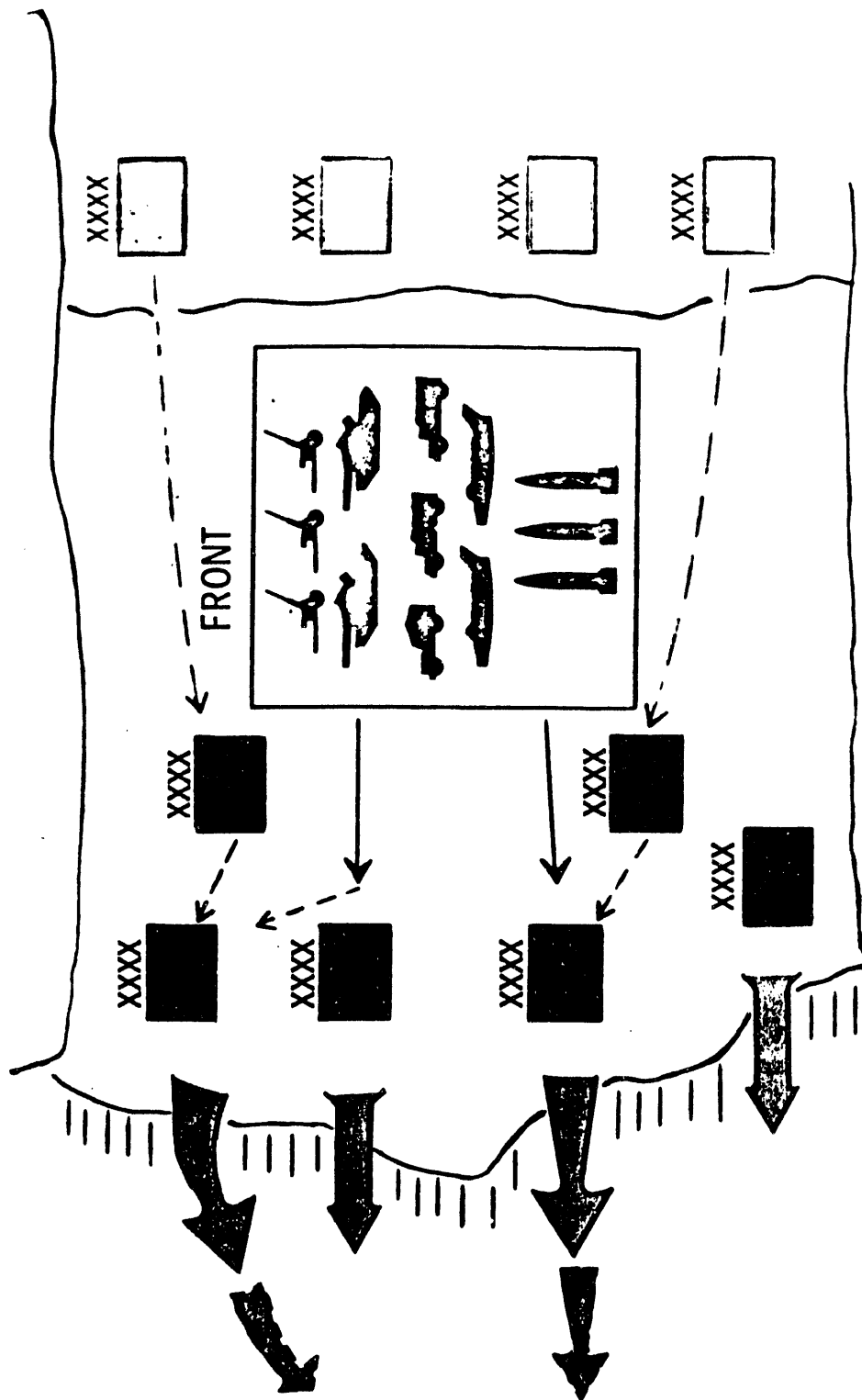


**(U) SECOND ECHELON QUEUES (ONE OR MORE BATTALIONS)
AT 67 RAIL AND 33 ROAD JUNCTIONS, D-DAY TO D+9,
2/4 SCENARIO**



**FIGURE 4
APPENDIX C**

ILLUSTRATION OF SOVIET CONCEPT OF OPERATIONS



PREFACE

In late 1981, I gave a RAND seminar on the origins of the NATO "dual track" decision of December 1979. Several colleagues encouraged me to write it up. This turned out to be a larger task than I anticipated: I worked on this paper during 1982. At that time, I thought it would be useful to chronicle the events of 1975 through 1979 as I saw them, first as a Pentagon analyst and then as an NSC staff member, especially because myths were circulating concerning the origins of the decision. On second thought, I realized that such a paper could add fuel to the INF political fire, which was burning brightly in 1982-83. This concern, abetted by laziness, led me to set the project aside. Later, I used the material as the basis for a short article, "The LRTNF Decision: Evolution of U.S. Theatre Nuclear Policy, 1975-9," (*International Affairs*, 1984). This Internal Note is the original 1982 paper with a few updates that were added in 1983, I think.

The account is unfinished, ending in September 1979, not December as originally planned, and does not have a concluding chapter to provide lessons for the future. Moreover, it reads like what it is--an unedited draft. Nevertheless, as RAND steps again into the area of theater nuclear policy during this current period of NATO unease, I thought researchers might find this of some use. To those of us who lived through the earlier period of ferment over the TNF issue, "it's deja vu all over again."

A word on methodology: I relied almost totally on my memory, which was fairly fresh in 1982. Moreover, I had an unclassified listing of all the memoranda that I wrote or received as an NSC staff member 1977-1981. This proved invaluable for ensuring an accurate chronological treatment of events. Nevertheless, the account has all the flaws of anything produced by a single observer. I was also mindful to protect sensitive issues and some aspects of the tale are omitted. I would be able to say more today, but in fact, most of the essential facts (and far more) are here, I believe.

I. EVOLUTION OF U.S. THEATER NUCLEAR POLICY: 1975-1979

James A. Thomson

INTRODUCTION

In the brief period between May 1978 and December 12, 1979, U.S. policy, and the policy of the NATO Alliance, toward theater nuclear forces (TNF) changed dramatically. The consequences of this change now dominate the political agenda in East-West (and West-West) relations. The ultimate outcome of the now renamed intermediate-range nuclear force (INF) debate will have far-reaching consequences for the future of the Atlantic Alliance. How did this issue emerge? Why did the United States change its policy? How did it work with its Allies to change NATO policy? These questions, among others, are now figuring in the debate. This paper attempts to provide at least partial answers.

From 1975 to 1979, the United States and its NATO allies confronted new strategic realities as a consequence of a decade-long Soviet military buildup in conventional and nuclear forces in and around Europe, and of the Soviet Union's rise to strategic parity with the United States. In these five years, the U.S. and its allies alternatively shrunk from these realities, ignored them and clung to old policies, overreacted to them, and often misunderstood one another. When Americans and Europeans finally found a basis for consensus on what to do about the realities, they acted with what in retrospect seems to be breathtaking speed, deciding on a program of theater nuclear modernization and arms control in slightly less than one year.

This program calls for the deployment of new U.S. Long-Range Theater Nuclear Forces (LRTNF)¹ in Europe, beginning in late 1983. These are to consist of 108 launchers for the Pershing II ballistic

¹ LRTNF refers to weapons systems with an operational range (or, in the case of aircraft, radius) greater than 1000 km--approximately the range needed to strike West German territory from Soviet territory, and vice versa. Many other terms are used to mean roughly the same thing.

missile and 114 launchers for the Tomahawk ground-launched cruise missile (GLCM). Since each of the latter can fire four missiles, the Pershing II and GLCM force consists of 572 missiles, each capable of delivering a single warhead.

When brought to fruition, the decision will change the strategic situation, for it will put in Europe substantial capability to strike Soviet territory from West European territory with nuclear weapons. True, the Alliance has today some capacity against the Soviet homeland in the form of U.S. F-111 fighter-bombers and British Vulcan bombers. But the Vulcans are few in number and old; the F-111s are intended chiefly for conventional bombing missions, and both are based in Britain, not on the European continent. Not since the early 1960s, when U.S. Jupiter and Thor missiles were withdrawn, has NATO had the capability to strike the Soviet Union from the Continent. Indeed, implicit in U.S. and NATO strategic policy since the collapse of the MRBM² initiative in the early 1960s was a deliberate choice *not* to have such a capability. Thus, the December 1979 decision represents a substantial policy revision.

As of this writing, more than three years after the decision, the LRTNF issue occupies center stage in U.S.-European, U.S.-Soviet and Soviet-European relations, having taken on a political importance that far transcends its original defense and arms control scope. "Pershing and Cruise" have become a dominant factor in the domestic political life of many European countries. The Soviet Union has mounted a major political effort to derail the decision and prevent the deployment of the new missiles. In many ways, the issue has come to symbolize the long-term struggle between the U.S. and USSR over Western Europe. Failure to achieve the deployments (without a Soviet agreement to dismantle its LRTNF missiles, the SS-20, SS-4 and SS-5) will be interpreted as a major victory for the USSR in this struggle, just as

The Reagan administration has adopted intermediate-range nuclear forces (INF). The Soviets and some Europeans refer to medium-range forces. LRTNF will be used throughout this paper, since it was the term in use by NATO in December 1979.

² Medium-Range Ballistic Missiles. See U. Nerlich for a review of this initiative.

the December decision was seen as a major accomplishment for the Alliance at the time.

The history of the decision has itself become a factor in the current political debate. As part of its derailing effort, the USSR has gone to great lengths to explain to the Western public its version of the (dark) motives behind the NATO decision.³ A few high-level participants, especially West German Chancellor Schmidt, have referred to their personal roles, and some accounts, based chiefly on interview material, have recently been published. Myths have already been created. A popular one in Europe is that the U.S. jammed the missiles down a reluctant European throat. An American version has the Europeans demanding the missiles and the Americans dutifully agreeing. The truth is a good deal more complex and contains elements of both.

This account is an attempt to contribute to the public record, but it has limitations as well. First, it is a discussion and analysis of the evolution of U.S. policy and, in that connection, NATO policy. Although European attitudes figured heavily in this evolution, the factors influencing European policy are not examined in depth. Second, while this writer was in a good position to observe the U.S. policy evolution, he could not know all (nor could anyone else).⁴ The account is thus affected by his vantage point and personal recollections.

Many factors impinged on the evolution of U.S. TNF policy from 1975 to 1979, and many people played important roles. The final outcome was influenced by the highly political process that led to it. This political process is the subject of this account. However, readers should be wary of interpreting the decision as purely politically motivated. Politicians only ride the tides of history. In this case, two currents were important--strategic and technological. The change in the NATO strategic situation brought about by the Soviet military build-up made the decision necessary. The rush of American technology, in

³ See, "The Threat to Europe."

⁴ From 1974 to 1977, he was an analyst in the Office of the Secretary of Defense, working on theater nuclear matters. From 1977 to 1981, he was the staff member of the National Security Council responsible for European defense and arms control policy.

particular the cruise missile, made it possible. Thus, in the view of this writer, a decision to deploy LRTNF missiles in Europe was inevitable. Politics shaped the decision--its exact content and timing. Politics could yet undo it.

II. THE POLICY SETTING: 1975

At the beginning of 1975, NATO Theater Nuclear Forces were a policy backwater from the public's point of view. U.S. experts and government insiders had been engaged in a lively debate for some time, but this had largely vanished from public view since the late 1960's debate over NATO's flexible response strategy. It was unlikely that any journalist who might have been moved to write about such an arcane debate could get a story past his editor. To be sure, there was some public interest: Senator Sam Nunn had held hearings on TNF in 1973-74, which had led to a Congressional requirement that the Department of Defense report on the role of TNF and on U.S. TNF programs. That report and Secretary Schlesinger's January 1975 posture statement provide a good snapshot of the TNF policy setting in 1975. The contrast to 1983 hardly needs to be dramatized.

In retrospect, the most striking feature about the U.S. policy debate in 1975 is that it was *not* about LRTNF. The Soviets had had such forces since the late 1950s, in the form of the SS-4 medium-range and SS-5 intermediate-range ballistic missiles (MR/IRBMs) and a medium bomber force. But these did not figure in most U.S. Government assessments of the NATO-Warsaw Pact TNF "balance." Nor did they figure in the central strategic balance, inasmuch as they had been excluded from SALT since the early 1970s. To experts and insiders, LRTNFs were called gray area systems, spawning the unfortunate acronym GAS (a term that was only dropped when the U.S. began referring to LRTNF in 1978).

The Soviet MR/IRBM and medium bomber force had been consigned to the gray area as a consequence of NATO strategy and deterrence doctrine. To most U.S. and European strategists, this held that a Soviet attack with these forces on Western Europe was deterred by the U.S. central strategic forces: Such an attack would be so massive, and wreak such destruction (especially in view of the high nuclear yields and poor accuracies of the Soviet weapons), that a massive U.S. central strategic attack on the USSR would almost certainly be triggered. This doctrine

had been the rule in NATO since the withdrawal of the Jupiters and Thors and the end of the MRBM initiative in the early 1960s; with the growth of a large U.S. central strategic force, including ballistic missile submarines (SSBNs) that could ply European waters, NATO strategists felt that it was unnecessary for NATO to have counterparts to the Soviet systems in the gray area. This doctrine would play an important role in the U.S. and NATO debates over LRTNF that began to unfold after 1975.

CONTENDING IDEAS

The lively debate on TNF policy in the U.S. Government focused ultimately on the question that has bedeviled NATO since nuclear weapons were first deployed to Europe in the 1950s. All agreed that the purpose of TNF was deterrence of both conventional and nuclear attack on Europe, but there was considerable room to debate how this should be accomplished through TNF employment doctrine, force size and force structure. In essence, three broad sets of ideas--not mutually exclusive--were in contention.¹

One set of ideas saw TNF as principally--if not solely--a *political* instrument--a visible symbol in Europe of the U.S. strategic nuclear guarantee, which reassured Europeans about their security, and which therefore was an important element of American political power in Europe. As a consequence, people holding these ideas would be attuned to European concerns about TNF policy, anxious to ensure that the Europeans not be upset. In its purest form, this set of ideas was a force for preservation of the status quo. It had many homes in Washington, but its headquarters was the State Department.

The nature of eventualities that might upset European governments could be predicted by recalling that they had insisted in 1967, when they finally acquiesced to the adoption of the NATO doctrine of flexible response, that an evident NATO intention to escalate any European conflict rapidly to all-out central strategic attack on the USSR would be the most effective way to deter a Warsaw Pact attack on Europe.

¹ I stress the term sets of ideas, not contending schools of thought, since many individuals were comfortable with more than one set of ideas.

Consequently, any American plans to strengthen NATO ability to fight a conventional nuclear war confined to Europe could be expected to upset European governments. Moreover, since the number of nuclear warheads in Europe, set at 7000 since the mid-60s, symbolized the U.S. nuclear commitment and NATO's intention to escalate any conflict to nuclear war, it could not be reduced. Nor could similar symbols of rapid escalation, such as Quick Reaction Alert (QRA) aircraft,² be altered.

The American preoccupation with flexible response, *traditional* especially in the DoD since the late 1950s, dominated the second set of ideas. These ideas had finally triumphed in NATO with the adoption of the NATO strategy document MC 14/3 in 1967. Shorn of its complexity, this strategy stressed the importance of escalation both for deterrence and, when deterrence fails, in successful defense. Deterrence would be served by NATO's threat that any conflict could escalate to the highest level--all-out central strategic nuclear war. Thus, the concept of escalation "linkage" between low levels of conflict (conventional) and the highest level served to establish the credibility of a threat that would have been otherwise incredible in an age when the U.S. was naked to a massive Soviet central strategic nuclear retaliation--that the U.S. would massively strike the USSR in the event of Soviet aggression in Europe. A spectrum of TNF capabilities from "low" to high levels is needed for linkage. At the same time, it would also serve defense, since if deterrence broke down, capabilities to defend at whatever level the enemy chose to fight would hold out the hope of controlling the conflict and ending it on NATO's terms short of all-out nuclear war.

Consequently, holders of the traditional set of ideas wanted NATO forces to provide NATO decisionmakers with a wide range of force employment options, which would both provide chances to control conflict and convince the USSR that there was an unbroken powder trail leading from NATO's conventional forces to the U.S. strategic deterrent. NATO's conventional forces were of great concern to the traditionalists because they were the weakest link in the escalation chain. Traditionalists

² NATO maintains a portion of its aircraft that are capable of nuclear, as well as conventional, attack--dual-capable aircraft (DCA), on nuclear alert.

also wanted to be sure that the Soviets could not break this chain by destroying NATO's theater nuclear forces; in particular, dual-capable aircraft (DCA) concentrated on a few bases, with some or QRA, seemed to be inviting the Soviets to strike preemptively.

The third set of ideas--*warfighting*--were motivated by a growing appreciation of Soviet nuclear employment doctrine. Research into Soviet military thinking was revealing a Soviet doctrine starkly different from NATO's. When they thought about nuclear employment, the Soviets did not seem concerned with either escalation control or with sending signals of further escalation to get the opponent to cease. Rather, they intended to use nuclear weapons, along with the rest of their military capabilities, to achieve military objectives throughout the entire European theater--defeat the enemy's military forces, occupy his territory, etc. Developments in the Soviet force structure appeared consistent with this doctrine.

Holders of the third set of ideas were concerned that NATO be prepared to fight a nuclear war in Europe and to defeat a Soviet "theater nuclear offensive."³ Thus, NATO needed capabilities for acquiring and striking such Soviet forces as ground force formations in battle, or moving towards battle; and NATO's own forces, both conventional and nuclear, needed to be able to survive and fight on a nuclear battlefield.

RESULTING POLICIES

Contention and compromise among these sets of ideas shaped the U.S. TNF policies of 1975. Underpinning these policies was the U.S. policy stress on improving NATO's conventional capabilities. During this time, the U.S. decided to send to the Federal Republic of Germany two new mechanized infantry brigades. The number of TOW and Dragon anti-tank weapons in U.S. divisions was increased markedly. And procurement decisions were made on a new generation of tactical aircraft--the F-15, F-16 and A-10--that stressed their advantages in conventional roles. Indeed, all three aircraft were originally designed solely for

³ See Douglas and Hoeber.

conventional missions and would not be dual-capable. The QRA mission would therefore have withered away over time, removing one of NATO's vulnerabilities to preemption and freeing tactical aircraft for conventional missions. But political concerns about European reaction--the first set of ideas--ultimately intervened, and the F-16 design was modified to give it nuclear strike capabilities and ensure continuation of the QRA mission.

TNF employment doctrine reflected a convergence of traditional and warfighting ideas; the catch words for nuclear employment were "shock and decisiveness." These meant, on the one hand, that nuclear weapons employment should directly affect the military battle--achieve military objectives. But this military effect should also get the attention of enemy decisionmakers, forcing them to reconsider their plans in view of the possibilities for escalation.

In NATO, the U.S. supported the development of selective employment plans (SEPs) for TNF in order to give NATO decisionmakers options short of massive strategic attack. These were obviously called for by the doctrine of flexible response, but NATO only became serious about them after Secretary Schlesinger announced in 1974 that the U.S. was developing limited nuclear options (LNOs) for its strategic nuclear forces. Without similar options for TNF, LNOs would have made little sense.

Consistent with the "shock and decisiveness" doctrine, TNF modernization efforts in 1975 were indeed focused on battlefield nuclear forces. New weapons would provide greater range and accuracy than the old battlefield TNF weapons; would be more responsive to nuclear employment orders; would have better security and safety features to prevent unauthorized use, whether by terrorists, enemy forces or any trigger-happy NATO commanders; and, finally, would reduce collateral effects--i.e., would ensure that while military forces were destroyed, surrounding civilian areas would be left relatively unscathed. At this time, the new Lance short-range missile was replacing the older and cruder Honest John and Sergeant rockets. And studies were underway on whether and how to replace the old 155mm and 8-in nuclear artillery shells. A decision to provide enhanced radiation (ER) feature to the

new 8-in warhead in order to reduce its collateral effects was to have important consequences later.

In addition to improvements in the forces themselves, plans were made to improve the means by which TNF could be employed in a limited and controlled way with shock and decisiveness against military targets. Most important were plans for improved target acquisition on and beyond the battlefield and better command, control and communications (C3) for theater nuclear operations.

More effective nuclear weapons and better ways to employ them meant that fewer would be needed. The 7000 weapon stockpile, a hefty portion of which consisted of battlefield weapons, had been a cause for concern to the U.S.--too many weapons concentrated in too few places were an open invitation for sabotage, terrorists, or enemy action. Reductions in the number would be welcome. Furthermore, many U.S. officials felt that reductions might get the Europeans' attention about the need for conventional improvements. Accordingly, the DoD proposed that the U.S. offer substantial nuclear withdrawals from Europe in the negotiations on Mutual and Balanced Force Reductions (MBFR), suggesting at one time a withdrawal as large as 2000. In deference to the first set of ideas, however, the U.S. ultimately proposed to withdraw 1000 so as not to unduly rattle the European allies.

As the year 1975 opened, those in the U.S. Government responsible for TNF policy were preoccupied with problems of employment policy, battlefield TNF modernization, the size of the stockpile and arms control. LRTNF could not have been further from their minds.

III. PORTENTS OF CHANGE: 1975-1976

Two new factors came onto the TNF scene in 1975 that would disturb the policy picture and ultimately help produce the December 1979 TNF decision. These factors--the new Soviet SS-20 missile and the SALT II negotiations--combined with underlying strategic and technological trends. In strategic terms, the SS-20 dramatically brought home to Americans and Europeans the consequence of the decade-long Soviet military build-up. In arms control, the SALT II negotiations collided with the maturing U.S. cruise missile technology, and inadvertently gave that technology a political boost.

THE SOVIET MILITARY BUILD-UP

The military balance in Europe has never been a cause for comfort. In ground and tactical air (conventional) forces, the Soviets long held a substantial numerical edge, though the tactical air balance was closer if reinforcing aircraft from the U.S. were taken into account. But Western analysts judged that NATO's qualitative superiority in its conventional weapons helped make up for the ground force imbalance. And, in any case, NATO's TNF--and the link they represented to U.S. strategic forces--were there to deter any Soviet attempt to use its conventional superiority.

These judgments began to change in 1975. Research commissioned by the Net Assessment Office of DoD, as well as work carried out independently by the U.S. intelligence community cataloged the underlying trends in the NATO-Warsaw Pact conventional military balance over the previous decade. These studies displayed graphically the cumulative impact of the Soviet effort: since the Cuban missile crisis and the demise of Khrushchev, the USSR had embarked on a substantial military build-up in conventional forces facing NATO. The number of ground force divisions had not grown significantly, but within those units the number of major weapons systems (and with it the number of soldiers) had increased and the quality of the weapons had improved markedly:

In the conventional area, the advent of self-propelled artillery, the BMP and new air defense weapons provide great increases in firepower.... Overall, what is being seen is an effort that improved mobility, firepower, support and protection for men and weapons, which are essential inputs to combat success.¹

As Soviet ground force strength grew, NATO's qualitative edge was slipping away.

In tactical air power, the decade had seen a transformation in the Soviet force from a short-range, low capability air defense force into a modern force with "improved range, payload, avionics, and ECM capabilities. Most dramatic is the increasing ground attack capability...."² The Soviets appeared to be catching up with NATO in tactical air power, previously NATO's long suit. This is not to say that NATO capabilities were stagnant. The end of the Vietnam war had led to a refocus of U.S. defense planning on Europe. But the important modernization efforts were still in the future.

The increased Soviet ground and tactical air strength brought another concern: Soviet forces, together with other Warsaw Pact forces, might be strong and ready enough to attack NATO without extensive mobilization or reinforcement from the western USSR. Because of NATO's conventional weakness and lack of attention to readiness, many observers were worried that such an "unreinforced" or "surprise" attack would succeed quickly, without Soviet use of nuclear weapons and before NATO could screw its courage to employ its nuclear forces. Secretary Rumsfeld's 1976 posture statement cited Soviet exercise and training patterns as evidence that the Soviets contemplated periods of conventional conflict without nuclear employment.

According to NATO doctrine, the Soviets would be deterred from undertaking such an attack by NATO's threat of nuclear escalation (as described in Section II). For these threats to work in a crisis, and

¹ Report of Secretary of Defense Donald Rumsfeld to the Congress, January 27, 1976.

² Ibid.

thereby deter, the Soviet leadership would have to be convinced that escalation could proceed to a level where the Soviets would be at a net disadvantage, and that they could not dominate the conflict at some lower level and knock the U.S. and NATO out of the war. So long as the U.S. was superior in nuclear forces, especially at the ultimate central strategic level, all was well with the doctrine of flexible response and NATO's deterrent.

But, 1975 marked the culmination of the Soviet struggle to achieve strategic parity with the U.S. Many western strategists argued that the USSR had achieved parity with the U.S. in the early to mid-1960s when, even though it had numerically superior central forces, the U.S. was no longer capable of carrying out a first strike on the Soviet Union's nuclear forces and denying the Soviets a devastating retaliatory blow on the U.S. Others, however, pointed at the vast U.S. superiority in numbers of central strategic weapons and in nuclear weapons technology. By 1975, there was no longer any room for debate about whether the Soviets had achieved parity. Numerical parity had been codified at the level of 2400 strategic nuclear delivery vehicles (SNDVs) in the November 1974 Vladivostok accords. And in June 1975, Secretary Schlesinger announced that the Soviets had begun deployment of a new generation of ICBMs that incorporated MIRV technology, which had previously been an American monopoly.

No responsible official or knowledgeable defense analyst in the U.S. or Europe was surprised by this. The doctrine of flexible response had been formulated in anticipation of strategic parity. It placed a greater burden on conventional and theater nuclear forces for deterrence: credible conventional and theater nuclear defense options were needed to ensure that the escalation chain could not be broken by the Soviets, and that therefore the U.S. strategic deterrent remained a factor in deterrence of war in Europe. But the trouble was that NATO's conventional options were becoming less viable, placing an even greater burden on TNF for deterrence.

Fortunately for NATO, the Soviet TNF force was in 1975 not particularly impressive. It was a large force, and therefore formidable, but not one well-suited for controlled nuclear warfighting.

Like the MR/IRBM force discussed above, the shorter range missiles-- the SCUD and FROG--were old and crude: they were inaccurate, carried large warheads, and had a number of operational deficiencies. Further, the Soviets did not have any nuclear artillery to match NATO's. The improved ground attack capabilities of the Soviet tactical air force probably also meant improved nuclear strike capabilities, but the chief nuclear strike assets of the Soviet theater forces were decrepit, and quantitatively and qualitatively inferior to NATO's at the battlefield (0-100 km) and medium ranges (100-1000 km). At the longer (LRTNF) ranges (greater than 1000 km), the Soviets had vast numerical superiority, but the systems were old and crude. An analyst comparing the relative strengths of NATO and Warsaw Pact throughout the deterrent spectrum in 1975 with those of 1967, the year when flexible response was adopted, would have seen the following picture.

<i>Level</i>	<i>1967</i>	<i>1975</i>
Conventional	Pact predominance in ground forces; NATO edge in tactical air	Reinforced Pact predominance in ground forces, Pact gains in tactical air.
Battlefield TNF (range < 100 km)	NATO predominance	NATO predominance.
Mid-range TNF	NATO predominance	NATO predominance, with some Pact gains in air delivery.
Long-range TNF (range > 1000 km)	Pact monopoly	Pact monopoly
Central strategic	Dwindling NATO superiority	Strategic parity

THE APPEARANCE OF THE SS-20

By the spring of 1975, most officials in Washington responsible for TNF matters were aware that the Soviets were developing a new IRBM, the SS-20. In June, the knowledgeable circle was widened to include Europeans. In his briefing to the NATO Nuclear Planning Group (NPG) on the new Soviet ICBM deployments, Secretary Schlesinger described the new

SS-X-20,³ noting that it was mobile and utilized the upper two stages of the SS-X-16 ICBM, also in the development stage. He subsequently briefed these facts to the press,⁴ but the SS-20 was lost in the noise caused by the new ICBM deployments.

Compared to the old SS-4 and SS-5 MR/IRBM force, which it was expected to replace, the SS-20's capabilities were a dramatic improvement. Its mobility would make it relatively invulnerable to NATO attack; its range would permit it to strike western Europe from behind the Urals; its reduced yield and higher accuracy would make it possible to carry out successful strikes on NATO forces and installations with far less collateral damage and fewer civilian casualties; and its three MIRVs per rocket and rapid refire capability would increase overall firepower at the same time that the number of launchers, and presumably costs, could be reduced. This was a weapon that one could contemplate fighting a war with.

Since the U.S. and NATO intelligence communities had long anticipated the appearance of a replacement for the SS-4s and -5s, it took some time for the strategic implications of the SS-20 to sink in. As we shall see, this did not fully occur until 1978, when the full scope of the Soviet TNF modernization effort was better understood. But political fallout started sooner.

Neither the American public nor press was instantly seized with the SS-20 issue. However, in the annual skirmish in Congress over the defense budget, a new Soviet missile, any missile, is an important weapon for the executive branch. The new Defense Secretary, Donald Rumsfeld, and his aides took the opportunity of the FY 77 budget debate to remind Congress and the public about the SS-20 development program. The missile also began to figure in U.S. presentations in NATO designed to spur the European allies toward increased defense efforts.

The arms control process provided the greatest public boost to the SS-20. Its LRTNF counterpart, the Backfire bomber, was already (in 1976) one of two chief factors standing in the way of a SALT II

³ The "X" was included in the designation until the SS-20 was deployed in 1977. It will not be used again in this paper.

⁴*New York Times*, June 21, 1975.

agreement based on the Vladivostok accords (the other was the cruise missile, see below). Ambiguities about Backfire's range had ignited a debate inside the U.S. Government about whether the Backfire had intercontinental strike capabilities and therefore should be counted in the 2400 Vladivostok ceiling on strategic nuclear delivery vehicles. The parentage of the SS-20, the SS-16 ICBM, and initial uncertainties about its range, raised questions about whether it, too, was a SALT circumvention. Even after technical questions about circumvention were dispelled when the maximum estimate for the SS-20's range was set at 5000 km (the minimum estimate was 4400 km),⁵ many within the government were concerned that the SS-20 represented Soviet propensity to shift the arms race into new areas and change the strategic situation even while agreeing to limits in SALT. The SS-20 seemed to threaten the very concept of SALT.⁶

This may have been the motivation behind a speech given by Fred Ikle, Director of the Arms Control and Disarmament Agency, in Los Angeles on August 31, 1976. He said that the SS-20 represented "a massive, unwarranted and unexplained expansion" that was jeopardizing SALT II. In his view, Soviet "strength in regional nuclear bombers and missiles grows like a towering dark cloud over Europe and Asia." And he added: "What is the military mission of their new medium-range ballistic missile? Why are they adding to this arsenal? What--we must ask with deep concern--is the possible political purpose?"⁷ Mr. Ikle's questions reflected concern within the administration that the Soviets intended to use the codification of strategic parity in SALT II to build up their TNF strength and politically intimidate European nations.

⁵ SALT II defined ICBMs as missiles with range greater than 5500 km.

⁶ Similar problems bedeviled SALT from its beginning, and continue to do so. In SALT I, the Soviets sought to include what they call U.S. Forward Based Systems (FBS), systems based in or near Europe that the Soviets claim can strike Europe. This demand was ultimately dropped, together with a reciprocal U.S. demand that Soviet MR/IRBMs and medium bombers be included. The Soviets raised the FBS demand again in SALT II, but dropped it at Vladivostok, reportedly in exchange for U.S. agreement to permit a unilateral Soviet right to 308 "heavy" ICBMs.

⁷*New York Times*, September 1, 1976.

However, these concerns were not universally shared. Others in the administration questioned the need to raise the political visibility of the SS-20 in Europe. After all, it was not a uniquely new capability, but rather an upgrading of an old capability represented by the SS-4s and -5s. NATO had long relied on the U.S. strategic forces to deter Soviet MR/IRBM and medium bomber attacks. Raising concerns about the SS-20 seemed to be to question the link of the U.S. strategic deterrent to Europe; and that was unthinkable since so much else depended on it--the Soviet view of NATO's deterrent strength, Europe's sense of security, U.S. political power in Europe. "Decoupling" talk was to be avoided at all costs.

The speech resonated in Europe, nevertheless. European governments were fearful of the SS-20 and wondered about its military and political meaning. In some European defense circles, the idea of the "Eurostrategic balance" began to circulate: According to this idea, in the age of strategic parity, it might be necessary to achieve a balance in Eurostrategic systems--the class of systems such as the SS-20 and Backfire. The appearance of a Eurostrategic balance separate from the strategic balance would be "decoupling," cried Americans (and many Europeans), who felt that the whole concept of balance in the TNF arena was meaningless in light of the role of TNF as a link to U.S. strategic forces.

To many Europeans, however, it was U.S. behavior in SALT that was decoupling. The U.S. was seeking an agreement with the USSR based on equality in strategic forces, while permitting the Soviet MR/IRBM and medium bomber force to run free. The American government's left hand did not seem to know what its right hand was doing. Its left hand (the U.S. SALT community) was limiting all U.S. central strategic forces in exchange for limits on Soviet central forces. Its right hand (the NATO community) was telling Europeans that the same U.S. central forces were the offset to the growing Soviet LRTNF. U.S. behavior in SALT with cruise missiles did nothing to alleviate these concerns.

U.S. CRUISE MISSILE PROGRAMS AND SALT II

Cruise missiles have been a bone of contention between military and civilian officials in the Pentagon since the early 1970s. The key issue has revolved around civilian pressures on the military to replace manned aircraft with modern cruise missiles.⁸ Systems analysts in the Office of the Secretary of Defense (OSD) saw cruise missiles as offering a more cost effective means of destroying fixed enemy targets than manned aircraft. These civilian pressures combined with the politics of SALT II, and contributed substantially to the momentum behind the ground-launched cruise missile (GLCM) program.

The cruise missile-manned aircraft dispute first broke into the open over the SCUD and SCAD missiles (Strategic Cruise Unarmed (Armed) Decoy).⁹ The Air Force wanted the SCUD to assist manned bombers in penetrating Soviet air defenses by drawing fire; it would replace the aging Quail decoy. In the early 1970s, civilians in the Office of the Secretary of Defense argued that the SCUD should be armed, hence the SCAD, so that it could contribute directly to the bomber's mission by destroying enemy targets, as well as by depleting the enemy's air defenses. Since only a short logical step was needed to see that the SCAD might substitute for, not simply complement, the manned bomber, interest grew in a "standoff" bomber armed with cruise missiles. Such a bomber would launch its missiles before reaching Soviet air defense coverage, and therefore would not need the capabilities to penetrate by itself. The SCAD was thus a bureaucratic threat to the B-1 bomber, designed to follow the B-52 in the penetrating bomber mission.

⁸ It has almost become obligatory to begin a discussion of cruise missiles by pointing out that the German V-1 buzz bomb of World War II was a cruise missile; that cruise missiles have been in the U.S. inventory in the past; and that the Soviets deploy a lot of cruise missiles today. In the 1970s, technological advances--miniaturized computers and small turbofan engines--made possible quantum improvements in the range, accuracy, and detectability of modern cruise missiles.

⁹ A detailed description of the Pentagon politics over the SCUD/SCAD can be found in Ockenden and Art....

The Air Force ultimately argued that the B-1 would not need decoys to assure its penetration. The SCAD was cancelled in 1973. But from its ashes rose a new joint Air Force-Navy cruise missile technology program, with the Air Force to concentrate on propulsion and the Navy on guidance. From this technology base, the Air Force would develop an air-launched cruise missile (ALCM), making maximum use of SCAD technology. The Navy would develop a sea-launched cruise missile (SLCM), with both a tactical (anti-ship) and a strategic (long-range land attack) variant.¹⁰ The ALCM would have a range of 1200 km, and the long-range SLCM a range of 2500 km or more. Strategic missions were envisioned for both the ALCM and the land-attack SLCM missiles. The ALCM would complement the manned bomber leg of the strategic triad and the SLCM the sea-based leg. Since the Navy's SLCM design was also capable of air launch, both missiles continued to figure in the B-1 debate. OSD was unhappy that the shorter range of the ALCM limited its utility as a long-range, standoff missile (and therefore as a B-1 substitute).¹¹

A missile versatile enough to be launched from the air, from the surface of the ocean, or from below the surface of the ocean could also be launched from the ground. This fact was not lost on the companies developing the cruise missiles, or on the OSD analysts that were its biggest boosters. In early 1975, the LTV Corporation, one of the two firms competing for the Navy SLCM contract, released a photograph¹² depicting a SLCM mounted on the launcher for the Lance short-range, surface-to-surface missile, also produced by LTV. The possibilities for

¹⁰ The Navy had long been interested in cruise missiles. In the early 70s, there were two anti-ship cruise missile programs: the Harpoon and the Advanced Cruise Missile (ACM). The Strategic Cruise Missile (SCM) program was initiated in 1972.

¹¹ Subsequently, in early 1977, the Navy and Air Force programs were merged into a joint strategic cruise missile program, and the ALCM's range was lengthened by stretching its fuselage for increased fuel capacity. President Carter cancelled the B-1 a few months later on the grounds that a standoff cruise missile was a more cost-effective solution.

¹² *AWST*, February 24, 1975, p. 19.

a small, highly mobile, land-based missile were obvious. What could one do with such a weapon?

The agreements on the outlines of a SALT II treaty reached by President Ford and Chairman Brezhnev at Vladivostok in November 1974 provide OSD analysts ample incentive to think seriously about this question. After the initial euphoria had worn off, a major dispute erupted between the U.S. and USSR. As described above, the U.S. argued that the Soviet Backfire bomber was capable of striking U.S. territory from the USSR, and thus should be included in the limit of 2400 SNDVs permitted for each side. In turn, the Soviets argued that the limits covered all cruise missiles with range greater than 600 km (i.e., both the ALCM and the SLCM). The question of how the U.S. should handle these two Vladivostok ambiguities in the SALT II negotiations became the focus of a major controversy within the Washington bureaucracy, one that the press found especially attractive since it involved the personalities of Secretaries Kissinger and Schlesinger.

When confronting a problem like this, the U.S. arms control bureaucracy's reaction is to produce an options paper: various negotiating options are postulated and then analyzed in terms of a variety of factors, military, political, etc. The task of military analysis is normally assigned to the Pentagon, which examines the various options' effects on current defense programs and future defense program options. The arms control process thus becomes a venue for major policy debates about defense programs.

Such was the procedure for the SALT II cruise missile problem. Because the Defense Department seemed to have a clearer idea of what it would do with the ALCM--complement or substitute for the manned bomber--than with the SLCM or the GLCM (the latter not even being a program in 1975-1976), the options often treated the ALCM differently than the other two systems. For example, Soviet interest in cruise missile limits might be satisfied by banning SLCMs and GLCMs with ranges greater than 600 km while permitting some ALCM deployments. Analysis of these options ultimately led to a series of U.S. proposals to the USSR in early 1976, the most important of which was the February 1976 proposal that included: (1) heavy bombers armed with ALCMs counted within the

Vladivostok sub-ceiling on 1320 MIRVed SNDVs, (2) a temporary ban on deployed SLCM and GLCM with ranges greater than 600 km, and (3) no restrictions on flight testing of SLCMs and GLCMs up to 2500 km.¹³

Consideration of such options by the U.S. bureaucracy during 1975 sparked debate within the Pentagon over what defense options might be sacrificed if long-range GLCMs were banned. Land-based missiles with 2500 km range would obviously have to be deployed outside the U.S. to be able to hit enemy targets, and thus the search for GLCM missions concentrated on Theater Nuclear Forces. OSD analysts focused their attention on an old problem: the vulnerability of dual-capable aircraft (DCA) on Quick Reaction Alert (QRA) and the wasteful divergence of DCA from conventional to nuclear missions. Previous attempts to eliminate DCA and the QRA mission had been rebuffed by a combination of elements of the U.S. military, the State Department, and European governments. The first was concerned that DCA were needed to carry out legitimate nuclear strike missions in the theater. The latter two were worried about any perceived diminution in the U.S. nuclear commitment to Europe. But the GLCM seemed to offer a way around both these concerns: GLCM could take over the DCA missions, including QRA, and provide the visible evidence of the U.S. nuclear commitment; a mobile GLCM force would be more survivable than the DCA force and not invite the Soviets to preempt; and it would permit the DCA to concentrate on conventional missions, thus increasing NATO's conventional strength and thereby "raising the nuclear threshold." Analyses that demonstrated the low cost of a GLCM force and the high payoff in conventional air capabilities began circulating in Washington to bolster OSD arguments in opposition to SALT II limits on GLCM.

These arguments found support elsewhere in the Pentagon. Although there was substantial opposition within the Air Force to giving up the DCA nuclear mission, especially since OSD and the Congress could not be trusted to continue to maintain existing force levels after removing the mission, this was by no means universal: many senior officers worried about the shortage of conventional tactical air assets and would welcome the end of the nuclear mission.

¹³ See Ockenden and Art...

Opposition to SALT II GLCM limits sprang from other concerns as well. For example, some TNF analysts were less interested in the DCA substitution role for GLCM, but were more intrigued by its possibilities as an addition to NATO's TNF. NATO's Supreme Allied Commander, Europe (SACEUR) has a number of Warsaw Pact military targets that he would like to destroy in the event of an all-out nuclear war with the USSR. But, with his 1975 forces, including DCA, he was unable to strike these for two reasons: (1) in the view of his target analysts, he did not have enough weapons; and (2) those weapons that he did have did not have sufficient range to strike many targets, especially those in the USSR. Consequently, in the event of an all-out nuclear exchange, SACEUR would have to rely on U.S. central strategic forces (not under his command) to strike targets that he felt important to the outcome of a conflict within his theater of responsibility. Although this NATO reliance on U.S. central forces is exactly what is called for by the doctrine of "coupling," many military officers were uncomfortable with it and felt SACEUR should have at his disposal the wherewithal to do his job. GLCM seemed to offer the prospect of providing the needed wherewithal.

Finally, the cruise missile in general, and the GLCM in particular, seemed to hold a potential key to NATO's conventional defense problems. Many analysts envisioned thousands of conventionally armed cruise missiles deployed in and around Europe, and capable of striking fixed targets such as airfields throughout the territory of the Warsaw Pact. Chief among these analysts was the Secretary of Defense himself. James Schlesinger felt that cruise missiles could alter U.S. weapons strategy, could be employed on NATO's flanks and at sea, could help overcome the vulnerability of NATO's fighter-bombers on the central front, and improve NATO's ability to penetrate Soviet air defenses.¹⁴ He was not alone in this view. By 1975, a substantial body of opinion had grown within the U.S. defense analysis community that the coming generation of Precision Guided Munitions (PGMs), which included modern cruise missiles, would provide NATO an important qualitative edge over the

¹⁴*New York Times*, October 19, 1975.

¹⁵ See, for example, J. Digby, *Precision Guided Weapons*, Adelphi Paper No. 116.

Warsaw Pact.¹⁵ Possible limits on such cruise missiles as GLCM were of concern because they could restrict NATO's conventional defense options.

Thus the SALT II process gave a boost to the GLCM program. It provided an incentive for cruise missile advocates to develop military rationales for GLCM and a framework to make their arguments--GLCM as a substitute for DCA in the nuclear strike role; GLCM as an addition to NAO's TNF capabilities; GLCM as a conventional weapon. As the SALT II debate moved forward, the momentum behind GLCM grew. In January 1977, Deputy Secretary of Defense William Clements ordered the initiation of a development program for a GLCM, based on the SLCM airframe already under development.

THE EUROPEAN PERSPECTIVE

The European defense analysis community is small and relies heavily on its contacts with American counterparts for information. These contacts are fostered through such official channels as NATO committees and working groups, which bring together defense and foreign policy officials from both sides of the Atlantic, and through such unofficial channels as conferences and workshops, journals and private visits. Organizations such as the International Institute for Strategic Studies and the European-American Institute play an important role in maintaining an information flow through unofficial channels.

By such means, European officials and defense analysts were able to observe the American cruise missile debate closely. As a consequence of the American defense community's enthusiasm for new weapons technology in general, Europeans had acquired a deep interest in the possibilities that cruise missiles, both nuclear and conventionally armed, might offer for European defense. At the risk of oversimplification, it is probably fair to say that the majority of European cruise missile enthusiasts had only a minimal understanding of the potentialities and limits of the weapon. The higher one looked in European governmental structures, the less understanding one found. Yet cruise missile enthusiasm abounded in Europe. And it merged nicely with the growing interest in some European quarters of a "Eurostrategic Balance," described above; the GLCM, for example, could be on the European side of the scale.

As seen from Europe, the U.S. SALT II debate did nothing to dampen this enthusiasm. Here was the U.S. defense community building momentum behind cruise missile programs, and arguing the case for one--GLCM--solely on the grounds of its potential role in NATO defense. Yet the Pentagon did not seem to be winning the SALT II argument: the U.S. Government continued to consider various GLCM and SLCM bans and limits,¹⁶ and the most articulate advocate of the Pentagon's view, Secretary Schlesinger, was sent packing by President Ford, reportedly as the consequence of a number of policy disputes with Secretary Kissinger, of which SALT II policy was one.

To Europeans, a pattern was emerging: U.S. SALT II proposals to deal with the Soviet Backfire seemed aimed at ensuring that the bomber could only strike targets in Europe and Asia, but not targets in the U.S., European concerns about the threat posed by the SS-20 and Backfire to Europe, which would not be limited by SALT II, were answered by American assurances about the deterrent role in Europe of U.S. central strategic forces, which would be limited. In short, the U.S. appeared willing to sacrifice European security, by giving up weapons like GLCM and ensuring that the Backfire could only be used against Europe, while trying to obtain a SALT II treaty that would only limit the threat to the U.S. Suspicions deepened.

THE EVE OF THE CARTER ADMINISTRATION

As 1976 drew to a close, these were only suspicions and had not yet begun to influence European policy substantially. That would await the advent of the Carter Administration. Yet the strategic, technological, and political forces that would shape the LRTNF debate over the next few years were already at work. These were:

¹⁶ Although European governments were not officially informed that the U.S. proposed to the USSR in February 1976 a ban on 600+ km GLCMs and SLCMs (see Ockenden and Art), it is likely that they got wind of the proposal--from the Soviets if not from Americans.

- The Soviet military build-up, conventional and nuclear, was undermining the basis of the NATO deterrent strategy of flexible response. The appearance of the SS-20 provided the stimulus to Americans and Europeans to wonder about the meaning of the SS-20 in the age of central strategic parity.
- European governments were concerned about, indeed frightened of, the SS-20, and the notion of a "Eurostrategic Balance" was circulating in some quarters.
- Technological and bureaucratic momentum was building behind the U.S. cruise missile programs, especially GLCM.
- At the same time, the U.S. was offering to ban GLCM in SALT II.
- The momentum behind the U.S. cruise missile programs spawned European cruise missile enthusiasm, which was built even further by European concerns over U.S. SALT policy.

As the Carter Administration took office, the makings of a severe alliance political crisis over LRTNF (in the form of cruise missiles)¹⁷ were in place. But U.S. policy toward LRTNF remained unchanged: LRTNFs were not necessary, since the U.S. central strategic deterrent could take care of any LRTNF deterrence and defense needs.

¹⁷ It is worth noting that the Pershing II missile did not figure in the debate at that time, and did not figure in it until 1978. There was an Army Pershing II program to replace the aging 750 km-range Pershing I missile deployed in the FRG. But the new Pershing II missile was to have the same range as the Pershing I, and thus did not qualify as LRTNF. The Pershing II program had suffered numerous delays owing to OSD and Congressional concerns about the need for it. It was only in late 1977 and early 1978 when the company responsible for the Pershing II program--Martin Marietta--began briefing officials in Washington about the possibility of more than doubling the missile's range at little additional cost did the extended-range Pershing II (or Pershing II XR) enter the debate, first as an alternative to GLCM. The XR missile is today's Pershing II.

IV. FIGHTING THE PROBLEM: 1977 - MAY 1978

THE ADVENT OF THE CARTER ADMINISTRATION

By most outward signs, the Carter Administration could have been expected to harbor the policy objective of quietly quelling the impending alliance cruise missile controversy, and perhaps of killing or indefinitely delaying the SLCM and GLCM programs (while accelerating ALCM as a standoff substitute for the penetrating manned bomber). The new administration had little interest in TNF, nor much belief in their value. TNF was something to be tolerated, but certainly not worth expending much political or financial capital on. Yet the irony is that because the administration pursued policies which seemed to downgrade TNF in general, and cruise missiles in particular, it only intensified and accelerated the impending alliance crisis, and ultimately forced the administration to put TNF high on its policy agenda. Two early policy initiatives stand out in this regard: increased NATO conventional defenses and pressure for an early SALT agreement.

CONVENTIONAL DEFENSES--THE LTDP

President Carter came to office pledging to rebuild the defenses of the NATO alliance. To the administration, as to practically every Western analyst of the European defense problem, the most critical need was improved conventional defenses. Robert Komer, named Special Advisor to Secretary of Defense Brown, was charged with devising a program to achieve this. Based on his studies of the NATO problem at The Rand Corporation, Komer believed that NATO was wasting a substantial portion of the financial and manpower resources that it was devoting to conventional defense through poor planning--especially duplicative efforts by various NATO nations in force programs, weapons procurement, and research and development. He argued that carefully coordinated NATO defense planning, coupled with a modest increase in resources, should make it possible for NATO to acquire a credible conventional defense option. Drawing on his Rand work, Komer circulated in the Washington bureaucracy a voluminous report showing how this could be done.

The Komer report formed the backdrop to a major speech by President Carter to the other leaders of the alliance at a NATO summit meeting in London in May 1977. The most important aspect of the speech was the President's call for the preparation of a NATO Long-Term Defense Program (LTDP) that would coordinate and guide the defense planning of the individual NATO nations over the next 10 to 15 years. Allied leaders agreed to charge their defense ministers with developing a program that could be put before another summit meeting in a year.

With great energy, Komer immediately set about turning his personal report into the NATO LTDP. Together with colleagues in DoD and State, and at the NSC staff, he was concerned that previous such efforts in NATO had produced only lofty rhetoric with little guarantee that nations would follow through, which in the normal course of events they would not do, especially if financial or political capital had to be spent. He was determined to avoid such an outcome by providing the LTDP with programmatic teeth--specifying such details as national goals for numbers of weapons to be procured in specific time periods. Accordingly, the U.S. proposed the establishment of task forces within NATO to draw up specific programs in nine key areas of conventional defenses, including, for example, reinforcement, readiness, electronic warfare, war reserves, etc.¹

This ran against the NATO grain: it set off major jurisdictional disputes in the NATO bureaucracy and ran afoul of military planners and finance ministries in Europe. To overcome these problems, the U.S. mounted a major political campaign, with Komer as the point man--organizing, cajoling, and, in the view of more than a few European officials and American diplomats, bullying. To demonstrate the level of priority that the U.S. put on the LTDP, the President himself was occasionally involved personally in the diplomatic effort. The proof was in the pudding: although it was flawed in some ways, the LTDP put together from the nine task force reports and agreed by NATO Leaders at

¹ A 10th Task Force was to deal with the TNF outside the main framework of the LTDP. The work of the 10th Task Force will be discussed later in the paper.

a summit in Washington in May 1978 was a significant achievement. Never before had so detailed a plan of action been set before NATO.

European governments had seen U.S. administrations come and go, each stating a goal of improved NATO conventional defenses. But this was different: the amount of U.S. energy put into, and high-level attention paid to, the LTDP drive--combined with the lack of attention to TNF--seemed to signal to Europeans an important U.S. policy shift toward a strategy emphasizing conventional defense. A conventional emphasis strategy was anathema to Europeans, for it held the prospect of a repeat of the destruction wrought by World War II in Europe. And Europeans thought that a downgrading of TNF would weaken the vital link of U.S. central strategic forces to Europe, thereby weaken deterrence, and increase the possibility of war. Europeans had been on the lookout for U.S. moves toward "denuclearization" since President Carter called for the eventual elimination of nuclear weapons in his inaugural address. The U.S. push for the LTDP was evidence to Europeans that this was the direction of U.S. policy. Concerns in Europe deepened as U.S. LTDP policy took shape in the spring and summer of 1977.

THE DRIVE FOR A SALT II AGREEMENT

Even more than in the previous administration, SALT dominated the national security agenda of the Carter Administration. As evidenced by both his inaugural and farewell addresses, President Carter was deeply worried by nuclear weapons. He wanted to do all he could to bring them under control, and urged his advisors to obtain a SALT II agreement quickly.

In this quest, cruise missiles were both a nuisance and blessing. They were a nuisance because, as we have already seen, they complicated the SALT process, and to many officials, the prospects for cruise missile proliferation and the verification difficulties associated with such small weapons seemed to threaten the entire arms control process itself.² By the same token, they were a blessing because the Soviets were quite worried about the prospect of thousands of ALCMs, SLCM, and

² See A. Vershbow, *Cruise Missiles: The End of Arms Control Foreign Affairs*....

GLCMs trained on the Soviet Union, and therefore might be willing to reach an early agreement, including stringent limits on the Soviet ICBM threat to the U.S., if cruise missiles were limited in some way.

Following the March 1977 debacle in Moscow when the Soviets rejected out of hand Secretary Vance's proposal for a comprehensive "deep cut" agreement, the nuisance/benefit factors led the U.S. back toward the Ford Administration's February 1976 proposal: ALCMs would be limited in the main SALT II treaty; SLCMs and GLCMs would be limited in a protocol of three-year duration--no deployments of missiles of range greater than 600 km, although testing would be permitted to ranges of 2500 km.

As European governments were made aware of this proposal in the late spring and early summer of 1977, their anxiety deepened. They were not reassured by the fact that the protocol would expire before it was physically possible to deploy the new 2500 km SLCMs and GLCMs, feeling that the protocol either would set a precedent for follow-on agreements, or would simply be extended at Soviet insistence. Further, the Soviets had insisted on a "non-transfer" provision, by which the U.S. would be prohibited from transferring to third countries weapons or related technology limited by the agreement. This could mean that the U.S. could not even supply conventionally armed cruise missiles to its European allies. To the Europeans, American willingness to deal with the Soviet non-transfer policy by agreeing to a provision not to circumvent the agreement "through a third state or states" indicated softness. Thus, the behavior of two U.S. administrations in SALT was not a source of European confidence in American assurance about cruise missiles, especially in view of the Carter Administration's apparent policy of reduced NATO reliance on nuclear weapons.

V. THE U.S. CRUISE MISSILE PAPER

By late spring 1977, European concern about U.S. policy had contributed to a steadily mounting number of requests for briefings on technical details about U.S. cruise missile programs and for U.S. assessments about the prospects for improving NATO defenses through cruise missile deployments. The British government, with its twin interests in modernized NATO forces and in a modernized British strategic nuclear deterrent, was in the forefront of these requests, with the West German government not far behind.

The State Department opposed giving the briefings. It feared that the kind of technical program briefings that the Pentagon usually prepared would only emphasize the positive and thus further feed European cruise missile enthusiasm. Moreover, with the U.S. proposal for inclusion of cruise missile limits in the three-year protocol only recently put on the table, the SALT discussions had reached a delicate stage: The Soviets might interpret the briefings as evidence that the U.S. proposal was not serious and react negatively. Finally, State argued, the new administration should be clear about its own cruise missile policy before talking to the Europeans.

But as European pressure mounted, cracks appeared in the U.S. position. The Defense Department had wanted to give the briefings to European governments all along. It argued that the U.S. could not and should not deny its Allies information about programs potentially important for their defense. This would indeed be highly unusual and therefore politically damaging; furthermore, experience had shown that lack of understanding in Europe about cruise missiles only whetted European cruise missile appetites more.

These points resonated in parts of the State Department: The Bureau of Politico-Military Affairs (PM) thought it wise to draft a cruise missile briefing paper that might be presented to European governments. But, as envisioned by PM, the briefing paper would be sharply different from the normal program briefing that the Pentagon and

defense contractors liked. Not only would the paper describe the cruise missile technically, but it would spell out pro and con arguments about cruise missiles from a number of points of view: Their contribution to various NATO military missions, their effect on deterrence, arms control problems (including verification), possible Soviet reaction, both militarily and politically, and so forth. In other words, the paper would be "evenhanded," arguing neither for nor against cruise missiles for NATO, but rather providing information on both sides of the question.

Accordingly, State drafted a paper and sent it to the Pentagon and the NSC staff for comments. Pentagon officials were apoplectic: not only had State usurped the DoD's prerogatives to draft a paper for NATO consumption about a U.S. defense program, but worse, the paper reeked of an anti-cruise missile bias. DoD registered its unhappiness with the NSC staff, arguing that the State paper should never see the light of day.

The NSC staff thought both State and DoD had valid points. Both were right that it was past time for an official exchange with European governments about cruise missiles; State was right that an evenhanded approach was needed; Defense was right that the State paper was not very evenhanded. But because the State paper was the only game in town, the NSC ordered that it be redrafted to accommodate DoD concerns. When the redraft did not satisfy DoD, the NSC locked the principal State and DoD drafters in the Old Executive Office Building and told them not to emerge until they had an agreed product. This procedure, supplemented by meetings among senior State, DoD and NSC officials, succeeded. In June 1977, the U.S. Cruise Missile paper was dispatched to NATO headquarters in Brussels for distribution to European governments.

In a sense, the State Department had won this seemingly minor bureaucratic struggle: an enthusiastic technical briefing did not go to Europe. State's initial draft was the basis for the final paper. The evenhanded approach was adopted. The "pros" were more positive, the "cons" less negative than in the original State draft, but there were still "cons" about the potential role of cruise missiles in NATO's defense. State's victory was quickly to prove Pyrrhic, however.

The European reaction was nearly instantaneous and uniformly negative. In the environment created by the U.S. policies toward SALT and NATO's conventional defense, the inclusion in the paper of reasons why NATO should not have cruise missiles was interpreted in Europe as a blatant attempt to "throw cold water" on cruise missiles. As evidence mounted from Europe that the U.S. paper had had the opposite of its intended effect, the State Department decided that further explanation to the Europeans was needed to calm the roiled waters. Consequently, an interagency briefing team was dispatched to Europe to explain U.S. views in face-to-face meetings at NATO headquarters in Brussels, and in Bonn and London. But the team did not carry any new instructions; rather, it was prepared to argue the U.S. case even more strongly, while clarifying points that the Europeans did not seem to understand. In particular, the team was determined to confront the Europeans once again with the argument the U.S. central strategic forces provided the offset to the SS-20, that they were targeted against forces in the Soviet Union that threatened NATO, thus manifesting the coupling doctrine, and that deployments of cruise missiles in Europe might threaten "coupling."

This mission proved to be a diplomatic disaster. The European officials had heard the coupling argument from the last administration. The new administration's SALT position made the argument sound at least as hollow. It was proposing to limit its central strategic forces and give away SLCMs and GLCMs while doing nothing about the Soviet MR/IRBM and medium bomber forces. Accordingly, European officials asked probing questions about U.S. negotiating positions and likely SALT outcomes that the Americans were unwilling to answer. Worse, they asked detailed questions about U.S. analysis on cruise missile effectiveness in various potential NATO missions that the Americans seemed unable to answer. (As indeed they were because the United States had not done its analytical homework.) The meetings resolved nothing and left suspicions on both sides even deeper than before.

The episode of the U.S. Cruise Missile Paper led directly to one of the major events of the LRTNF saga--the speech by West German Chancellor Helmut Schmidt at the International Institute of Strategic Studies

(IISS) in late October 1977. German officials were deeply irritated by and worried about the American performance.¹ It now seemed clear to the Germans that the Carter administration was prepared to mortgage NATO's future to get a SALT II agreement, without even considering the potential value of cruise missiles for NATO. Following the cruise missile paper episode, German attempts to convince the United States to change its SALT protocol position so that it would permit SLCMs and GLCMs of range greater than 600 km were rebuffed. In this light, Schmidt apparently decided to take German concerns to the public.

THE SCHMIDT IISS SPEECH

One of the more popular views of the genesis of the December 1979 decision to deploy Pershing II and GLCM in Europe is that "in a speech in 1977, Chancellor Schmidt asked the U.S. to deploy the missiles." He did nothing of the sort, at least not directly. In his IISS speech, the Chancellor dwelled mainly on economic matters. He never mentioned the possibility of deploying anything. He did not use the words cruise missiles or Pershing II; the latter did not even exist then in its current long-range version. He did, however, discuss briefly SALT and NATO: SALT, he said:

codifies the nuclear strategic balance between the Soviet Union and the United States. To put it another way: SALT neutralizes their strategic nuclear capabilities. In Europe this magnifies the significance of the disparities between East and West in nuclear tactical and conventional weapons....

One would have to study these words carefully to see a call for the deployment of new missiles. Most U.S. officials did not immediately feel that Schmidt had said anything especially new, perhaps because Schmidt and the German government's private unhappiness about the U.S.

¹ Some Americans were worried too, especially about the U.S. failure to have its analytic house in order. The NSC staff requested that DoD prepare a study of the cruise missile for NATO. This was completed at the end of 1977, but languished until the President ordered the PRM-38 policy review in mid-1978 when it was dusted off and inserted into the decisionmaking process.

SALT position was well known. But in time, a closer reading of the speech caused Americans to realize that Schmidt was saying publically things German Chancellors normally did not say:

- That the strategic nuclear capabilities of the USSR and U.S. were neutralized. Did he really mean that U.S. central strategic forces were decoupled from Europe, asked Americans?
- That parity must apply to all categories of weapons, including tactical nuclear and conventional. Did he mean that a "Eurostrategic Balance" had to be established? If so, how? Through deployment of new missiles?
- That the disparities of military power in Europe must be removed parallel to the SALT negotiations. Did he mean that this should be accomplished through new deployments, negotiations, or what?

Schmidt's speech raised big questions, some of which were most unwelcome in Washington. As the implications of the speech began to sink in, alarm bells began to ring in some quarters in Washington. Not only were the Germans worried about SALT and the SS-20, they were beginning to think unthinkable thoughts out loud, about decoupling and about a Eurostrategic balance. Such thoughts could lead in very dangerous directions, with adverse consequences for America's long-term security interests--a questioning of the viability of a West German security framework based on the Atlantic Alliance and the U.S. nuclear guarantee. This could in turn ultimately lead to West German accommodation with the USSR. U.S. officials responsible for the Atlantic Alliance began to realize that they had a serious problem on their hands, one that would have to be managed carefully, not swept under the rug on the way to a SALT treaty. It would take some time and other events before this conclusion would become so widespread in Washington that the basis for a policy reappraisal emerged. Thus, the critical contribution of the Schmidt speech to the LRTNF saga was not that he asked for missiles, but rather that he finally managed to alert Washington--the ultimate steward of German security--that it had a serious problem on its hands and had better do something.

TASK FORCE 10 AND THE HIGH LEVEL GROUP

An opportunity to find out whether the Germans had any concrete ideas about what should be done would come quickly in late 1977 and early 1978 in a NATO body called the High Level Group (HLG).

The HLG was something of a bastard child of the Long-Term Defense Program (LTDP). When the United States developed its LTDP proposal prior to the May 1977 NATO summit, it envisioned that nine NATO task forces would work on nine aspects of conventional defense improvements. Realizing that the European Allies would probably object if nuclear weapons were ignored in the LTDP, a tenth task force (TNF Modernization) was added to the U.S. proposal. In the U.S. view, Task Force 10 would be a horse of a different color from the other nine. So as not to interfere with the important work on conventional improvements, Task Force 10's work would be carried out in a separate NATO channel--the Nuclear Planning Group (NPG), on a slower (and indeterminate) schedule, and at a higher conceptual level than the programmatic detail of the other nine task forces.

The Task Force 10 enterprise was a windfall for DoD officials responsible for NATO's nuclear affairs. The NPG is a committee of NATO defense ministers;² consequently, responsibility for the U.S. contribution to the NPG is in the hands of the Office of the Secretary of Defense (OSD). Officials in OSD had long been concerned that the NPG alternatively, a West German quest for its own nuclear weapons. was losing whatever utility it had had when it was formed in 1967. The semiannual meetings of NPG ministers had become more a ritual than an exchange of views on substantial issues. This stemmed in part from the fact that many European defense ministers are politicians and parliamentarians with little experience in defense affairs, especially nuclear strategy. Many U.S. officials were concerned that the Europeans were not reflecting their government's concerns about nuclear issues and that U.S. briefings about U.S. nuclear strategy and forces went in one ear and out the other.³ The back-up NPG forum, the NPG Staff Group in

² See Legge for a discussion of NPG makeup.

³ As a vivid example, U.S. NPG briefings on plans for enhanced radiation warheads (ERW), more commonly known as the neutron bomb, had been forgotten in Europe when the ERW controversy erupted in 1977.

Brussels, was no substitute: It was staffed by mainly diplomats who spoke on the instructions of their governments, and consequently was also no place for a frank exchange of views.

OSD seized the opportunity of Task Force 10 to propose a new NPG subgroup. It would be composed of high level officials from national capitals who were responsible for their nation's nuclear policymaking. In theory, it would be an "expert group," members would not necessarily represent their governments' policy, but would speak "with knowledge" of those policies. This High Level Group would be chaired by a senior U.S. official.⁴ U.S. chairmanship would prove critically important for the way in which NATO policy developed, for it permitted the United States to draft and revise the key HLG documents. At its semiannual meeting in October 1977, NPG ministers agreed to establish the HLG; the first organizational meeting of the group was held in December.

In preparing for the second, and first substantive, HLG meeting, which was held at Los Alamos, New Mexico in February 1978, OSD officials began constructing a paper to lay out options for the future of NATO's TNF modernization. What to do? On the one hand, U.S. policy dictated that the HLG's discussion should be conceptual, meaning it should stay away from the cruise missile issue. On the other hand, most of the forces at work in the Pentagon wanted the cruise missile issue opened to NATO discussion: OSD's cruise missile enthusiasts were continuing to push the GLCM idea; the JCS bridled at SACEUR's lack of long-range strike capability; flexible response theorists⁵ worried about the lack of long-range strike capability in the age of strategic parity.

In this situation, the OSD drafters of the paper did what they inevitably had to do--write a conceptual paper, but point it at the issue on everybody's mind. The paper described four options for the future structure of NATO's TNF:

⁴ Throughout the period covered by this paper, the HLG was chaired by David McGiffert, Assistant Secretary of Defense for International Security Affairs.

⁵ Holders of the second set of ideas discussed in Chapter II.

- 1 The existing structure, modernized as necessary.
- 2 A serious battlefield nuclear war-fighting capability, with no ability to strike targets in the USSR from Europe.
- 3 The current structure, with modest strengthening of the long-range TNF elements.
- 4 An in-theater capability for major nuclear war against Soviet territory.

These options were accompanied by a discussion of their impact upon deterrence, and so forth.

Faced at Los Alamos with these illustrative choices, the European participants, led by the British and the Germans, moved rapidly and unsurprisingly toward option 3. Option 2 was clearly politically unacceptable with its implications of planning for a theater nuclear battlefield. Option 4 was out because it would give NATO a deep strike capability independent of U.S. central forces and thus be decoupling. That left options 1 and 3. Faced with this choice, the HLG rapidly reached a consensus that NATO needed an "evolutionary upward adjustment" in the long-range element of its TNF, where long-range meant capability to strike the USSR. The Europeans reached this conclusion⁶ and the DoD officials went along, although they obviously had set up a situation where such a conclusion was likely.

When OSD officials returned to Washington and briefed State and NSC on the consensus, a major dispute erupted in the U.S. government. The NSC, in particular, was outraged. It argued that Defense had no authority to agree to such a conclusion, whether in an "expert" group or

⁶ As discussed in Chapter I, this paper does not seek to assess in detail why the Europeans reached the conclusions they did, only why the Americans did. Suffice it to say that the political attitudes described above meshed nicely with the view of deterrence espoused by European defense officials, especially British and German. By 1978, many European defense officials had become flexible response enthusiasts, adopting attitudes similar to the "traditional" U.S. set of ideas, the second set described in Chapter II. They felt that for the escalation spectrum to remain credible and unbroken, NATO needed some capability to strike the USSR before resorting to U.S. central strategic forces.

not, since the conclusions of such a group would become a factor in U.S. policymaking. Moreover, the NSC asked whether a variety of issues had been discussed. Did the "evolutionary upward adjustment" mean 2500 km GLCMs in Europe? If so, where? Had the domestic political problems of the basing countries been discussed? The Soviet reaction? Had the military rationale been articulated? Had the arms control policy been spelled out? The answers to all these rhetorical questions were obviously no. OSD has let the Allies drive to the conclusion and the Allies had no answers to them either.

This reaction by the NSC and State, especially the questions that they felt should be analyzed by the HLG, was indicative of a strongly held view within the Carter administration that deployments of new long-range strike systems in Europe would provoke a major political crisis in the Alliance, creating problems far worse than those they were intended to solve. The experience of the multi-lateral force (MLF) contributed substantially to this view. In the (paraphrased) words of one White House official, "there are many gay faces around the table in Brussels today, but when they are faced with so many missiles, in such-and-such a place in their countries, at such-and-such a cost and the Soviets start breathing down their necks, they will crack. And we'll have to pick up the pieces." Variations of this view were expressed repeatedly within the U.S. government over the next eighteen months: fears of European cold feet gave Americans cold feet. But, more importantly, this view strongly affected U.S. policy toward LRTNF. Once they had decided to go down the LRTNF road, the Americans wanted the Europeans to face the hard facts about deployment--numbers, places, Soviet reactions--before NATO committed itself.

The more immediate result of the HLG consensus was a U.S. attempt to undo it. This proved impossible; the European HLG members were adamant: The Americans were not going to be permitted to wriggle out of a consensus they had been joined (even encouraged). The first report of the HLG to the NPG in April 1978 recommended the evolutionary upward adjustment. The conclusion was watered down by references to the need to study political issues and other matters raised by the NSC. But it was a fait accompli, something the U.S. government would have to contend

with. DoD had won an important bureaucratic victory, but with longer term consequences. Coordination of HLG matters would now be handled by the NSC, which would also be represented on the U.S. HLG delegation.

THE NEUTRON BOMB DEBACLE

If putative European behavior could give Americans cold feet, so could American behavior give the Europeans cold feet. No event contributed to this possibility more than the neutron bomb debacle in April 1978.

This is not the place to chronicle that complicated story. But because it played a part in the evolution of U.S. policy toward LRTNF, a brief summary is warranted: From mid-1977 onward, the U.S. and European governments had been involved in a continuing dialogue about the enhanced radiation warhead (ERW). In early summer 1977, sensational press stories about U.S. plans to produce artillery and missile warheads that included the enhanced radiation feature set off an emotional public debate on both sides of the Atlantic. Throughout the summer and most of the fall the U.S. and its European Allies played out an Alphonse-Gaston act. Neither was willing to state a policy for or against the ERW until the other did. Without a policy, the governments were powerless to affect the public debate, which careened out of control and was fueled by Soviet propaganda. The U.S. administration was divided on the ERW issue and so, to buy time, to get its house in order, it maintained that it could not formulate a policy on ERW production until it had the views of the potential ERW hosts, the Europeans, about deployment. The Europeans maintained that production was a U.S. responsibility and that the United States, not Europe, is supposed to take the lead in the Alliance on nuclear matters.

This impasse was finally broken in late 1977 when the United States adopted a three-part policy: (1) the United States would produce ERW, (2) the Europeans would agree to its deployment in Europe, and (3) the United States would propose to trade the ERW for the SS-20. In NATO consultations in early 1978, U.S. representatives sought to obtain European agreement to this policy. Most U.S.-European debate focused on the third point, on whether the ERW should be traded for the SS-20 or

for a number of Soviet tanks. But the Europeans had also noted that deployment could not occur until a few years after a production go-ahead, and that therefore they would still have a chance to check on the need for deployment in light of the results of the arms control talks with the Soviets. Thus, their commitment to deployment could be qualified. The most important qualification was introduced by the Germans--that deployments must occur in at least one other continental besides the FRG. This so-called non-singularity principle made it all the harder to forge a consensus on ERW production and deployment.

By his own account, qualified commitments were not good enough for President Carter.⁷ Although his senior advisors argued vigorously with him, he decided to cancel the ERW in late March 1978. After an attempt to obtain an unqualified commitment from the Germans failed, Carter announced publically on April 7, 1978, that he was indefinitely postponing a decision on ERW, effectively killing the program. The Europeans felt betrayed. In their view, the President had pulled the rug out from under them. His representatives had maneuvered them into an endorsement of ERW (even a qualified one came with political costs), and then the President had said no. To the Europeans, this was yet another case of U.S. unsteadiness and ineptitude. The President felt betrayed as well, by the Europeans and by the U.S. national security bureaucracy which had permitted the Europeans to make a qualified commitment and let them believe it was acceptable to the President.

One of the ironies of this episode is that the ERW itself was not particularly important. Its deployment would have marginally improved NATO battlefield nuclear capability and therefore deterrence. But most of the improvements could have been realized without the ER feature. These technical points aside, however, the nature of the debate gave the President's decision enormous significance. In its aftermath, U.S. officials reckoned that their mishandling of the ERW affair had dealt the Alliance a serious blow.

⁷ J. Carter, *Keeping Faith*, 1982.

- The Alliance had been shown unable to come to grips with an issue that cut to the very heart of its purpose: military security.
- The U.S. seemed unable to exercise Alliance leadership; President Carter's reputation of zig-zag policies threatened his role as leader of the Western Alliance.
- Through their propaganda and other efforts to manipulate public opinion on ERW, the Soviets had effectively gained a voice in the most vital decisions of the Western Alliance.

These conclusions had their most important consequences at the White House. Until the conclusion of the ERW affair, the NSC staff had joined the State Department in its reluctance to see the cruise missile issue addressed by the U.S. government. But the ERW conclusions shifted the balance on the NSC staff toward those who felt that the United States needed to reassess its policy and forge an interagency consensus on how to treat the issue of long-range TNF. The ERW debacle had already shown what could happen if the U.S. government did not have its act together when a nuclear issue burst onto the public scene. With the SALT II ratification debate looming, the LRTNF issue could also become a public issue. In May 1978, Zbigniew Brzezinski and his deputy, David Aaron, were convinced that the time had come to review U.S. policy and ordered the NSC staff to draft a Presidential Review Memorandum (PRM) for the President's signature. The U.S. government would stop fighting the problem and try to figure out what to do about it.

VI. FORMULATING NEW POLICY: JUNE 1978-DECEMBER 1978

The Carter administration was almost one and a half years old in June 1978. Yet its ideas on what to do about the LRTNF or cruise missile issue were even less clear than when it took office. In January 1977, the issue was looming and the policy predilections of the new administration were to make it stop looming so that the urgent business of SALT II and NATO's conventional defenses could be dealt with. As we have seen, this did not happen for a variety of reasons; by June 1978, the issue loomed even larger. While LRTNF was on the administration's policy agenda throughout this entire period, the substance of the issue had not been analyzed and debated openly within administration councils. Instead, the policy debate featured a series of bureaucratic scuffles. The NSC staff sometimes mediated them, sometimes not. A continuation of this policy anarchy was a recipe for disaster. PRM-38 changed all that.

PRM-38

Ever since President Kennedy assumed office in 1961, every new administration has found it necessary to put in place a New National Security Council "system"--the formal process by which policy is made and executed. The Carter administration was no exception, although the system it adopted was much like the one followed in the Nixon and Ford administrations.

In the Carter administration, the NSC system was based upon two cabinet level committees; the Senior Coordinating Committee (SCC) dealt with "crosscutting" issues that could not be identified as belonging specifically to the purview of one department,¹ accordingly chaired by Dr. Brzezinski. The Policy Review Committee (PRC) was convened when a policy issue was specifically identified with one department, but for which interagency coordination was necessary. This committee would be chaired by the head of whatever department would be involved. Both

¹ Arms control was such an issue, for example.

committees spawned a host of subcommittees, working groups, and so forth, which were responsible for preparing the studies and decision papers that were considered by the full committees. In the case of the SCC these normally consisted of the so-called "mini-SCC," chaired by Brzezinski's deputy, David Aaron, and an SCC working group, chaired by an NSC staff member. In addition, the NSC staff wrote the summary of conclusions reached at the SCC or PRC meetings, and forwarded these to the President for his approval, or, in case a consensus was not reached at the meeting, for his decision. These summary documents, with Presidential approval or instructions written on them, were major decision documents of the Carter administration.

Although the formal NSC committee system was an important feature of decisionmaking in the Carter administration, the formal process of Presidentially ordered policy studies, in the form of a Presidential review memorandum (PRM), was not. After an initial flurry of PRMs in 1977, Carter administration officials feared that the fact of a major policy review would leak and result in external political pressure on the internal policymaking process. But, in the case of LRTNF, the NSC staff chose the formal procedure because it felt a need to establish firm control over the issue. At least one of the contributing factors to previous political disasters associated with NATO nuclear policy--the MLF and ERW affairs--had been inconstant American policy caused by unresolved internal disputes inside the administration, usually between the State and Defense Departments. The NSC staff wanted to be in a position to resolve these disputes early and on this basis to direct the implementation of policy by the departments and agencies. From PRM-38 onward, U.S. policy on both TNF modernization and arms control was made and implemented through a series of committees chaired by the NSC staff up through Dr. Brzezinski.

PRM-38 called for an analysis of policy options for LRTNF modernization and arms control. The resulting study lasted two months. The final document was several inches thick and contained predictable chapters: an analysis of the LRTNF problem prepared by the State Department, an analysis of military options prepared by the Defense Department, a discussion of arms control options prepared by the Arms

Control and Disarmament Agency (ACDA), an assessment of overall policy options prepared by the State Department, and an intelligence assessment prepared by the CIA. At the end of the process, the NSC staff prepared an executive summary, including unresolved issues which was laid before a cabinet level meeting of the SCC in mid-August 1978.

The PRM-38 study brought out the basic divisions in the U.S. government over the LRTNF issue. The NSC's executive summary identified two schools of thought within the administration. Members of both schools agreed that the United States had a serious problem on its hands--European uneasiness with the declining credibility of NATO's nuclear deterrent structure. But they disagreed sharply on its nature, and therefore on what to do about it.

The first school of thought could trace its intellectual lineage to the "traditional" set of ideas of the mid-1970s that were discussed in Chapter II. This school could be found throughout the U.S. government, but its base remained the Office of the Secretary of Defense. This school argued that the problem was, at its root, a strategic one created by changes in the military balance over the previous decade and a half. The political problems stemmed from these military changes.

The first school of thought pointed to intelligence estimates that showed dramatic changes in Soviet military capability across the board. Not only had the Soviets attained strategic parity with the United States, but they were also transforming their entire theater nuclear force structure. Chapter II), the United States now saw improvements in Soviet battlefield TNF, including nuclear artillery and a replacement for the old Frog missile, the SS-21. At the mid-range TNF, the Soviets were continuing to deploy improved nuclear delivery aircraft and were developing a replacement for the old Scud missile, the SS-23. And by 1978, actual deployment of the SS-20 was beginning. These changes were providing the Soviets with a theater nuclear force considerably better suited for controlled nuclear warfighting than the one that was in place in 1975. The first school saw the Soviets as neutralizing NATO's flexible response strategy by putting them in a position to dominate the escalation spectrum. These analysts felt that the Soviets might come to believe they could conduct a limited nuclear war in Europe from the

sanctuary of Soviet territory--that they could decouple American strategic deterrent from the defense of Europe.

To the members of the first school of thought, the policy solution was quite clear. Since the problem was caused by the military situation, it required a military solution--a "hardware" solution involving deployment in Europe of missiles capable of striking Soviet territory.

Although the second school of thought did not dispute the intelligence, it disputed its meaning. It argued that the Soviets did not think about escalation dominance, selective employment plans, and all the other accoutrements of NATO flexible response. It felt that the Soviets were simply modernizing their forces as the Soviets always did. In the view of this school, a hardware solution would lead to decoupling not coupling, because it would leave the impression in Europe that the United States (not the Soviet Union) was planning to conduct a nuclear war confined to the European continent without involving U.S. strategic forces. It argued that American strategic forces were still ample for defense and did not need to be buttressed by capabilities to strike the Soviet Union from Europe.

At bottom, the second school of thought felt that the problem was not military and strategic, but purely political: the problem of European confidence in the United States had little to do with changes in the military balance, but more with American behavior over the past decade--Viet Nam, Watergate, the alleged inconstancy of the Carter administration, and most recently the ERW affair. These problems had created questions in European minds about America's ability to lead the Alliance. In the second school's view, a political problem needed a political solution that would rebuild European confidence in American commitments to Europe. It suggested such steps as committing more of the American strategic deterrent to SACEUR, strengthening Europe's role in NATO nuclear planning by revitalizing the Nuclear Planning Group in some way, giving the Europeans a stronger role in arms control discussions, such as SALT, and expanding those discussions to cover such forces as the SS-20.²

² It is noteworthy that a third school of thought did not appear.

When the SCC met in mid-August 1978 to consider the results of the PRM-38 study, agency heads or their deputies were present from State, Defense, JCS, ACDA, and CIA. A consensus quickly formed that some U.S. move in the direction of the hardware solution proposed by members of the first school of thought was needed. It would be a bureaucrat's conceit to claim that the analysis of the PRM-38 study had been *the* critical factor in creating this consensus. It certainly played a role. The arguments of the first school of thought created a certain political force of their own inside the administration and provided a strategic basis for the consensus. But other political factors probably predominated.

In particular, European unhappiness with U.S. defense and arms control policy had reached an all time high and, in the aftermath of the ERW affair, was spilling over into the U.S. domestic political debate. This spillover threatened the ratification of the still emerging SALT II Treaty. Both Europeans and Americans were taking aim at U.S. policies, criticizing the ban on GLCM and SLCM in the SALT II protocol, charging the administration with foot dragging on the cruise missile issue, and indicting the administration for lack of stewardship for NATO's nuclear affairs. A desire to blunt these criticisms and remove them from the SALT II debate probably played a strong role in the tilt toward hardware; an attempt to solve the problem through a purely political step was judged as likely to only make matters worse in Europe because it would be seen as a palliative, not a real answer to the issues raised by Schmidt's speech and by other European governments in NATO.

Holders of the "warfighting" set of ideas, discussed in Chapter II, had largely been eliminated by the advent of the Carter administration. To the extent there was any sympathy with these ideas, it came from within the U.S. military establishment. Some members of the U.S. military felt strongly that not only was a hardware solution needed, but also that the hardware should be deployed in large numbers, perhaps thousands of warheads. In a sense, this was a manifestation of the old idea, dating back to General Norstad, that SACEUR should have the wherewithal to do his job without reliance on the forces of external commands, such as U.S. strategic forces.

Although the SCC tilted toward hardware, it did so hesitantly because of fears that the issue would boomerang politically in Europe--that European enthusiasm for LRTNF would, when faced with the reality of hardware, become European hesitation and worry. Therefore, the United States stuck "a toe in the water," with a policy containing the following elements:

- The U.S. central strategic role must continue to be predominant in NATO's deterrent strategy. Any new hardware deployed in Europe could not be seen as replacement for U.S. central strategic forces. This meant, for example, that it could not replace U.S. central strategic forces in NATO's plans for a massive nuclear attack against the Soviet Union.
- New long-range theater nuclear forces--hardware--were needed in order to maintain the linkage between U.S. strategic forces and the defense of Europe. Because the purpose of deploying hardware was "linkage," the force could not be so large as to be seen as matching the overall size of the equivalent Soviet LRTNF, since that would be seen as providing independent "Euro-strategic" balance, and therefore be decoupling.
- While going forward with the hardware solution, the United States should also seek to obtain limits on Soviet LRTNF in the SALT III negotiations that were expected to follow the successful negotiation and ratification of the SALT II accords. The PRM-38 study had advocated this course, arguing that hardware and arms control went hand in glove. There were two reasons for this. First, it was impossible to conceive of the United States obtaining limitations on the Soviet LRTNF force--the SS-20 and the Backfire--unless it had something to trade for it; hardware was therefore necessary for arms control. It was also impossible to see how European support for deployments could be maintained throughout a lengthy period, unless the possibility of negotiated restrictions on deployments was held out; arms control was therefore necessary for hardware. In

concluding that the LRTNF discussions should be held in SALT III, the PRM-38 study had rejected two other possibilities: Including LRTNF in MBFR was seen as diverting attention from the central purpose of those negotiations--to improve the conventional balance in Europe--and complicating them even further. Separate negotiations--in theater arms limitation talks (TALT)--was seen as fueling "decoupling."

- The United States would take the lead in forging Alliance policy in support of deployments. In other words, the United States would not hang back, as it had seemed to do in the case of the ERW affair, while European governments made up their minds. Rather, it would state its policy preferences as the issue unfolded. To start this process, DoD was instructed to reconvene the High Level Group and to state that the United States supported the HLG conclusion in favor of an "evolutionary upward adjustment" in NATO's LRTNF.

Although it took the remainder of 1978 to complete the solidification of U.S. policy on LRTNF. By late August, the United States had clearly now reversed course. No longer was American policy opposed to or ambivalent about the deployment of hardware, such as the cruise missile, on the European continent; on the contrary, U.S. officials were instructed to advocate such deployments. Now the problem was to determine more concretely what a pro-hardware policy meant and to develop a strategy for bringing that concrete policy to fruition in the Alliance.

THE HIGH LEVEL GROUP REVISITED

The High Level Group met again in late September 1978. For this meeting, the United States prepared an options paper that described the possible ways in which an "evolutionary upward adjustment" might be defined.

This paper spelled out hardware deployment packages based on the military options section of the PRM-38 response. The packages mixed different types of possible LRTNF systems and came in different sizes,

measured by the number of warheads that would be deployed with the systems. Five potential systems were discussed: the Tomahawk ground-launched cruise missile (GLCM); the Pershing II, which was then described as the "extended range" Pershing II (see footnote 24); a potential new medium-range ballistic missile (MRBM), sometimes referred to as Longbow; and the Tomahawk sea-launched cruise missile (SLCM), which would be deployed at sea in European waters, and a force of fighter-bombers equipped with ALCMs (one possibility was the FB-111H fighter-bomber, which at that point was touted by the U.S. Air Force as a possible replacement for the B-1). The packages ranged in size from 100 to 2500 warheads. The paper did not discuss where exactly these systems would be deployed; that matter would come up later.

HLG discussions on the basis of this paper in the fall of 1978 began the process of narrowing the policy options. The European members of the HLG agreed strongly with their American counterparts that the purpose of new hardware deployments was to establish linkage between the defense of Europe and U.S. strategic forces and not to substitute for U.S. strategic forces in the NATO deterrent structure. This meant, in military terms, that the weapons should be seen as providing capabilities for "selective" (or limited) employment against Soviet territory and not for any massive general nuclear attack. This linkage and selective employment rationale, together with a desire to avoid any appearance of attempting to match the Soviet LRTNF in numbers, led the HLG to rule out a force size so large as to begin to appear to approach the overall size of the Soviet LRTNF (2500 warheads). The HLG settled on an upper bound of 600 warheads on this basis. The HLG also chose a lower bound of 200 warheads, arguing that smaller numbers would appear to be solely a token deployment (and therefore not satisfy political calls for deployment) and would not provide enough warheads for a militarily viable selective employment capability once potential survivability problems were taken into account.

As sensible as it was on strategic grounds, the selective employment rationale would make it difficult to provide a concrete military basis for the ultimate size of the LRTNF force. In NATO's flexible response strategy, selective employment is not intended to have

a purely military purpose, but more a political one--to demonstrate to the enemy a willingness to escalate the conflict and thereby to persuade him to quit his aggression. For this reason, it is impossible to say before the fact which targets of what types would be struck with which weapons in how many numbers at what stage in a conflict. For this reason, the choice of the final number for the program, as well as for the 200-600 range, would have to be subjective and not based upon a target destruction calculation.

With the fall 1978 HLG meetings, the United States established internal decisionmaking and external leadership procedures that would be followed until the final NATO decision was reached in December 1979. For all meetings of the HLG (and later for the Special Group (SG) set up in NATO to discuss LRTNF arms control) the U.S. Government would prepare a paper in advance. This paper would be drafted by Defense (and in later case of the SG, by State), discussed and perhaps modified as a consequence of meetings of the SCC working group, considered again by the mini-SCC or the SCC, depending on the seriousness of the policy issues. After approval by the U.S. government, the papers would be circulated to the allies, discussed in the High Level Group, and then perhaps modified by the United States as a consequence of allied views. HLG, and subsequently SG, papers were designed to advance the policy process step-by-step, steadily narrowing policy options and defining policy more concretely. In this process, the United States tried to stay one step ahead of the allies, but modified its views as a consequence of gaining a better appreciation of the European position.

Through its role as chairman of the High Level Group, the United States found a leadership role somewhere between absolute domination of the Alliance and ceding the leadership role to Europe.

THE GUADALOUPE SUMMIT

By the end of 1978, the process of preparing for HLG meeting, as well as for other bilateral and multilateral consultation with allies, had led to further solification of the American position around the following points:

- New LRTNF system should be deployed in Europe.
- LRTNF on both sides should be included in the SALT III negotiations.
- Firm European commitments to deployments were necessary for U.S. programs to go ahead. The U.S. government believed that without European deployment commitments, it would have the necessary political basis neither to ask Congress for program funds, nor to negotiate with the Soviets about restrictions on LRTNF.
- The deployments should take place in as many countries as possible. In essence, the United States was agreeing with the position of "non-singularity" that was spelled out by the Federal German government during 1978. According to this position, at least one other country besides Germany should be the site for new deployments. There were sound political and military reasons for the United States to join with the FRG in insisting on this point. Politically, it avoided leaving West Germany exposed to criticism both by any West European opponents of deployments, and by the Soviet Union, and it served the Alliance goal of shared political risks in nuclear deterrence. Militarily, deployments in more than one country helped improve survivability by multiplying the amount of territory that the Soviets would have to search in order to find and attack the new LRTNF systems.
- A NATO consensus on deployments should be reached by December 1979. Behind this point were two reasons. First, the development program for GLCM had reached a point where a delay in the NATO decision beyond December 1979 would mean a delay in the program. Second, a rapid decisionmaking process might preempt Soviet political action and mitigate against Soviet attempts to insert themselves into the NATO decisionmaking process, as they had done in the ERW affair.

- A NATO consensus on a deployment program was necessary and the United States would take the lead in forging that consensus. As with its role as HLG chairman, the United States was seeking a low profile leadership role: it was willing to lead, but it insisted on the support of the allies for LRTNF deployments. This U.S. policy was widely criticized, both at the time and since. Many observers, both Americans and Europeans, felt that the United States was asking too much of its allies to give their political support to nuclear weapons deployments. Rather, these observers have argued, that the United States should take these responsibilities on itself, absolving its allies of responsibility. However, President Carter and many others felt otherwise.

With these American positions in his pocket, President Carter met January 2 and 3 with Chancellor Schmidt, Prime Minister Callahan, and President Giscard d'Estaing in Guadeloupe. TNF was on the agenda.¹

¹ This paper does not contain a discussion of the Guadeloupe summit. The author was not there. In fact, only the four leaders and their four national security advisors were in the meetings, and many of the meetings excluded the national security advisors. For this reason, aside from the accounts of the four leaders themselves, which are not yet available, there is no reliable first-hand information on the Guadeloupe discussions. However, the consequences of the discussions were soon apparent and are discussed in the following section.

VII. SOLIDIFYING POLICY: JANUARY 1979 - JUNE 1979

The Guadeloupe summit initiated a year of feverish activity for both the United States and its NATO allies. If NATO was to reach a consensus on LRTNF by the end of 1979, much needed to be settled in a year: a program of deployments, and a concrete arms control policy to put flesh on the bones of the SCC's conclusion that LRTNF should be included in SALT III. With the President's return from Guadeloupe, the administration turned quickly to the first of these needs--a deployment plan. The President told his security advisors to study a variety of possible deployment options, including some that had apparently been discussed at Guadeloupe. An analysis of these options and U.S. preferences about them was to be the subject of a further round of consultations with allied leaders. Quite clearly, allied leaders were ready to get down to business.

Within the U.S. government, Guadeloupe therefore had two immediate and important consequences. First, it forced the United States to begin narrowing its preferences among the various systems that had been discussed at the HLG meetings in the fall. As the NSC staff worked with the Pentagon to prepare the options papers for the next round of consultations, a number of arguments began to emerge that would strongly influence the ultimate choice of LRTNF systems.

- The systems should be land-based. The strategic problem that had been previously identified by the HLG and discussed in PRM-38 had focused on the absence of NATO land-based LRTNF capability in Europe. The gap in the deterrent spectrum was in land-based forces not in sea-based forces: NATO already had U.S. Poseidon and UK Polaris missiles committed to SACEUR. This argument effectively eliminated SLCM from consideration, although other arguments against SLCM were brought forward as well.¹

¹ These arguments included the fact that it would be difficult to

- The new force should not include aircraft. As we have already seen, NATO's force of dual-capable aircraft was already a matter of concern because of the survivability problems of fixed airbases. Adding a new force of aircraft would only compound the problem. This argument eliminated any European deployment of the air-launched cruise missile (ALCM) as candidates for the LRTNF.
- Deployments should occur as quickly as possible after 1979 for two reasons. First, even if the allies made concrete deployment commitments in 1979, uncertainty about their implementation of the commitments would continue until the weapons were actually deployed. Second, the military problem was seen to be urgent--a problem in NATO's deterrent that already existed and was getting worse. For these reasons, the United States strongly preferred systems that had an early initial operational capability (IOC) and therefore preferred the Pershing II over the MRBM. Despite claims by the prospective manufacturers of system that an early IOC (mid-1980s) could be achieved for the MRBM, most U.S. government officials were skeptical. The Pershing II, on the other hand, was based on existing designs and components, some of which had even been tested. The possibility of a 1982-83 IOC for the Pershing all but eliminated the MRBM from competition.²

have any allied participation in a SLCM force since SLCM's would have to be deployed only on U.S. ships; whereas allies could participate in land-based deployments simply by hosting the forces. Another argument was that deployment of SLCM would add yet another mission to a naval force already finding it difficult to meet its existing missions, especially of sea control.

² The Pershing II was also seen to have another advantage over the MRBM. Deployment of the MRBM would be the deployment of an entirely new system, but the deployment of Pershing II would be seen as a modernization of the Pershing I. U.S. government officials (and their European counterparts) felt that this difference would have substantial political weight in the European political debate--modernization being seen as more politically acceptable than entirely new deployments.

The post-Guadeloupe studies, therefore, tended to narrow the range of choice to Pershing II and GLCM.

The second important consequence in the United States of the Guadeloupe meeting was the President's desire to continue contacts with his allied counterparts on the LRTNF issue. To facilitate this process, he named David Aaron, Brzezinski's deputy, as a Presidential emissary on LRTNF matters. Using his twin roles as chairman of the mini-SCC and as the President's emissary, Aaron became, in effect, the LRTNF czar within the administration.

From the U.S. perspective, the Presidential emissary served two purposes. First, it provided a means to lift the LRTNF discussions out of the HLG into political circles, thereby giving European political leaders an opportunity to influence the NATO deliberations on TNF before they were set in concrete. Second, it showed that President Carter was himself directly involved in the LRTNF deliberations and solidly behind the policy pursued by his government within NATO circles. The sign of a strong personal role by the American President was judged by administration officials to be essential if a NATO decision was to be reached in 1979. Rightly or wrongly, allied leaders had come to believe as a consequence of the ERW affair, that the President had not actually supported the policy of his administration and had at the last minute reversed course. Since Europeans were worried that this could happen again on LRTNF, it was essential for the United States to show direct Presidential engagement in the LRTNF affair. For all his high level consultations in 1979, Aaron obtained Presidential approval of his instructions and indicated to his allied counterparts that he was speaking on behalf of the President.

THE PRESIDENTIAL EMISSARY

Aaron traveled to Europe twice in early 1979 on behalf of the President, first to London, Paris, and Bonn to follow-up the Guadeloupe discussions, and soon thereafter to Rome, Brussels, and the Hague. The second trip was a result of the German non-singularity condition: it was not enough simply to talk to the British, Germans, and the French

about LRTNF, especially since the French would not accept deployments anyway. Other allied leaders,³ especially those that might be asked to accept deployments, needed to become engaged in the LRTNF process immediately.

U.S. objectives during these trips were modest, chiefly to engage political leaders in the LRTNF discussions. Consequently, the brief carried by Aaron was similar to the brief carried by the President to Guadeloupe, to which was added the emerging U.S. preference for Pershing II and GLCM. This U.S. preference was about to be indicated in the next round of discussions in the high level group.

In general, the European response was positive but wary. The LRTNF issue was, for the first time, beginning to loom on the political horizon, and the United States was now actually discussing hardware. The earlier European cruise missile enthusiasm was now tempered by initial assessments of this new political reality.

Not surprisingly, the British government was supportive of the U.S. view. British civil servants had advocated a hardware solution in the HLG and Callaghan government ministers clearly stood behind them. In Germany, the situation was somewhat different: the leader of the SPD faction in the Bundestag (Herbert Wehner) had initiated a major debate in the Bundestag on the relation between LRTNF and Ostpolitik. The government had handled itself well, but had been shaken by signs of potential opposition. While they supported the American position, the Germans warned the United States that it needed to be more definitive about arms control policy, as well as deployment policy, and urged the United States to form an arms control group parallel to the HLG in NATO.

Belgian leaders were positive but noncommittal--supporting the idea of deployments intellectually but concerned about problems of political management, especially in light of a feeling that Belgian political leaders had been left dangling by President Carter in the neutron bomb affair. That affair had had its most important political consequences in the Netherlands, however. The ERW debate there had created a

³ On all his trips and in all countries, Aaron usually saw at least one cabinet minister, sometimes more, and depending on the country and the visit, he saw defense, foreign, and prime ministers.

powerful anti-nuclear weapons movement, which was a political force to be reckoned with, especially for a government that held power by only two votes in the parliament. Dutch leaders were therefore torn between what they felt to be Dutch duty to participate in an undertaking of such importance to NATO and their fears of the domestic political consequences of doing so. The discussions in The Hague and Brussels, therefore, did not leave the Americans optimistic about their ability to find another country on the continent of Europe willing to accept the deployment of new systems, and thereby ease the German concern about singularity.

Italy was hardly expected to be the answer. The extended debate in Italy over communist participation in the government during the 1970s had left an impression in both the United States and Europe that Italy was a weak and unreliable ally. Italy's exclusion from the Guadeloupe summit was a manifestation of this belief, not only on the part of the Americans, but the other allied leaders as well. The Italian government was outraged by this exclusion. Aaron's trip to Rome was not expected to yield much. But surprisingly, the Italian government ministers indicated a strong preference for Italian involvement in any LRTNF deployment plan.

The reasons for this Italian reaction are complex and worthy of a separate study. Suffice it to say that it had to do with internal Italian politics, with attempts by the non-communist political parties to isolate the communists on security issues. It probably also had to do with the concern of Italian leaders about the symbolism of Guadeloupe and their determination to bring Italy back to NATO's "top table." Whatever the reasons, the consultation in Rome showed that it might be possible after all to put together a deployment program involving more than one country on the continent of Europe. U.S. determination to press on with its plan to achieve a consensus by the end of 1979 was reinforced.

THE HIGH LEVEL GROUP

Following the now established procedures, the internal U.S. government papers on system preferences found their way into the High Level Group. In its late-1978 deliberations, the HLG had discussed a variety of systems for possible deployment and had established the boundaries of 200-600 warheads. Now it aimed to be more specific about systems. Not surprisingly, the HLG participants quickly reached conclusions similar to those that had been reached in U.S. government deliberations (described above). They added another reason for preferring Pershing II over the MRBM--the Pershing II would not have the range to reach Moscow and threaten an attack on Soviet leadership.⁴

The allies asked the United States to provide information on the cost effectiveness of the various systems. In meetings in early 1979, the United States presented such an analysis--a standard Pentagon study that showed how much it would cost to buy and operate a force that could destroy various targets within the Soviet Union. Such analyses are heavily influenced by estimates of the system's "pre-launch survivability" and its "probability to penetrate"--that is, its ability once launched to get through defenses to the target.

This analysis established that, among the various options discussed by the HLG in the fall of 1978, the GLCM was by far the "cheapest." This simply reflected the fact that modern, small, lightweight cruise missiles are inexpensive to buy and to operate.⁵ But another crucial element of this analysis was a favorable U.S. estimate of the cruise missile's ability to penetrate Soviet air defenses over the long term. Cautionary notes about the estimate were introduced by some U.S. and British representatives. The GLCM would not look so attractive if the estimates were lower.

⁴ The flexible response doctrine presumes that enemy leaders will retain command and control over their forces and can make decisions to cease hostilities.

⁵ In this analysis, GLCM compared favorably to ALCM and SLCM because the analysis charged a pro-rata share of the launch platform--the aircraft or the ship.

These analytic conclusions reinforced the tendency of the HLG to point towards a mix of ballistic and cruise missiles. On technical grounds, a mix would provide a hedge against failure of the ability of the cruise missile to penetrate Soviet air defenses. Moreover, a mix would complicate enemy planning to deal with the NATO LRTNF force (forcing defense against both cruise and ballistic missiles). But the most important reason for the mix conclusion was that it offered opportunities for widespread participation at the lowest cost. Because the Pershing I was already deployed there, the infrastructure for the deployment of Pershing II was in place in Germany. Pershing could be deployed there at relatively low cost, but deployment of Pershing outside Germany would be very expensive because of the need to construct new bases. Cruise missiles could be deployed in those countries at relatively lower cost.

The HLG solidified its conclusions in April of 1978 and sent them to NATO's defense ministers for approval. These conclusions represented an amalgam of the conclusions reached by the HLG since September 1978, and because of the parallel nature of the discussions within the U.S. government and in the HLG, the conclusions were largely consistent with the direction of U.S. policy. To review briefly, these conclusions were: a land-based force; a mix of ballistic and cruise missiles; a force of 200-600 warheads; widespread allied participation in the program, which meant that all nations should support the deployment plan, and as many nations as possible could host the new deployments; and a NATO decision by December 1979. Within the HLG, European representatives had argued that the new LRTNF deployments would be part of a modernization program, not a force extension program, and should therefore occur without increasing the overall stockpile of nuclear weapons in Europe--for every new warhead deployed, one should be withdrawn. The United States agreed and this point was also added to the HLG conclusions.

With completion of the HLG work in April 1979, practically all aspects of the deployment program were in place. All that remained was the specification of the number of systems and identification of the countries where they would be placed.

THE SPECIAL GROUP

As the allies watched the HLG's work on the deployment program becoming more and more specific, they wondered where the arms control program was. Since September 1978, the United States had stated that there ought to be discussions about LRTNF in SALT III, but what exactly did the United States have in mind, and what role were the allies going to play in formulating the U.S. position in SALT III? Increasing allied disquiet about the lack of U.S. specificity on the arms control side led the German government to propose, first to Aaron, and then in NATO, that a "Special Group (SG)" be established in NATO to discuss LRTNF arms control. This group's work would parallel to that of the HLG, and like the HLG would be chaired by the United States. Where the HLG's representatives came generally from defense ministries, the SG's representatives would come from foreign ministries.

This German proposal initially met a good deal of resistance within the U.S. government. The reasons were various. SALT II was as yet unsigned and unratified. It seemed premature to many to be having a discussion with allies about SALT III. Within the U.S. community of officials that dealt principally with SALT, there was a fear that the United States would ultimately have to "clear" all the U.S. SALT positions with the allies. The Defense Department, in particular, was worried that this allied pressure for an arms control group indicated an allied interest in a "arms control only" solution--that once having convinced the United States to include LRTNF in SALT III, the allies would declare the problem solved and abandon any deployment decisions. These fears were ultimately overcome by the pragmatic assessment that without progress on the arms control front, there would be no deployment program because the allies would find it politically impossible to agree to one.

The special group began work in April 1979, with Leslie Gelb, director of the State Department's Political-Military Bureau, in the chair. In June, Gelb left the government and his chairmanship was assumed by Reginald Bartholomew, his replacement in the Political-Military Bureau. The group worked feverishly from April to

the end of September 1979, meeting seven times at NATO headquarters in Brussels. The discussions were based on the SG's "Objectives and Principals" paper, which spelled out the basic objectives that the Alliance would pursue in LRTNF negotiations, and then developed these into a more detailed set of principles that were meant to guide the United States in the negotiations. As the discussions proceeded, the objectives and principles paper was buttressed by a series of analytic papers discussing in detail the issues raised by the objectives or principles.

U.S. procedures for managing the SG paralleled those of the HLG. Papers were drafted by the State Department, discussed and rewritten on the basis of meetings of the SCC LRTNF working group, moved forward for approval by the mini-SCC or cabinet level SCC meeting, and then sent to allies in advance of the meeting of the SG. In this manner, the Objectives and Principles paper, which was redrafted after each SG meeting, became the basis for both allied and U.S. decisionmaking on LRTNF arms control.

In the initial SG discussions, the United States sought to keep the objectives and principles vague, consistent with U.S. fears that the allies would attempt to turn the SG into a forum in which all U.S. positions on SALT would have to be cleared. But most allied governments showed early in the SG deliberations that this was not their objective. They were content to agree to the principles and leave it to the U.S. government to put together specific proposals and carry on the negotiations on behalf of the Alliance. With this point clarified, the United States was willing to see the principles elaborated in greater detail, especially after the SALT II accords were signed in Vienna in June.

SCHMIDT-CARTER MEETING

Chancellor Helmut Schmidt paid a visit to the White House in June. U.S. officials saw this meeting as the last point at which the LRTNF train, now rolling more rapidly down the track, might be stopped or derailed. If either leader showed hesitation, it could play to the other's fears and perhaps lead to a joint decision to reassess or delay.

Americans were concerned, in particular, that Chancellor Schmidt's political base for pressing forward toward December 1979, was eroding. The discussions in the Bundestag in February and March had demonstrated the possibility of a deep rift within Schmidt's Social Democratic Party on the LRTNF question. Although they remain firm supporters on pressing forward with LRTNF, Schmidt's representatives in the HLG and SG showed increasing caution, arguing for points that would be helpful to Schmidt in his internal political debate. This increased German caution stood in sharp contrast to the pressure that the German government had mounted on the United States to be more forthcoming on the cruise missile question only slightly more than a year earlier. But it symbolized the changed political situation in Germany as the deployment issue became more publicly prominent. Memoranda were prepared within the U.S. government arguing that the President should take a firm line with Schmidt stating his determination to push forward to an Alliance consensus on LRTNF in December.

The officials need not have worried. Schmidt, too, was determined to press on to a decision, asking for U.S. sensitivity to his problems and indicating his readiness to help the United States with the other allies. The joint press statement, issued at the end of the meeting, was quite clear and meant as a signal to the rest of the Alliance: The two leaders said that they were prepared "to move forward expeditiously" to modernize LRTNF and they agreed to try to accomplish this before the end of 1979.⁶

Coming just before the signing of the SALT II accords in Vienna, the Schmidt-Carter meeting signalled both other leaders of the Western Alliance and the Soviets that 1979 would see a major NATO decision on nuclear arms. Since this was the first time, outside of ritualistic NATO communiques, that any Alliance political leaders had expressed determination to push forward with an LRTNF decision, the statement could have kicked off a major public debate about LRTNF in both Europe and the United States. But it did not, largely because public attention

⁶ *New York Times*, June 7, 1979.

was diverted by the signing of SALT II, after which the summer news doldrums set in. The public debate would have to wait until the fall.

THE INTEGRATED PROGRAM

In May, the National Security Council staff ordered an interagency study of the integrated deployment and arms control policy that the United States should recommend to NATO. The critical issue was the size of the projected deployment and the countries in which the new systems would be based.

The U.S. plan was to present this U.S. proposal to allied leaders before submitting it to the High Level Group and Special Group, so that allied leaders would have an opportunity to influence the U.S. proposal before it became a fait accompli. Even though the HLG and SG were "expert" groups, their final recommendations would be very hard to change in subsequent discussions without setting in motion a process of unraveling the program entirely. U.S. officials believed that once one country began to fudge its participation in the integrated program, others would feel free to do so themselves. Indeed, given mounting European concerns about prospective political problems in securing government approval for an integrated decision in December, U.S. officials felt that the unraveling principle probably applied not only to the HLG and SG's final recommendations, but also to U.S. proposals as well. According to this view, once U.S. proposals were introduced into the HLG and SG, the United States could not begin to move off them without starting the unraveling process. Consequently, if European leaders wanted to affect the makeup of the program, they would have to do so before the U.S. proposals were introduced into the HLG and SG. Accordingly, another presidential emissary trip to Europe was scheduled for late July, setting an early July deadline for the NSC interagency study.

On the critical matter of the deployment program, the study set out four options that conformed to the HLG's April recommendations. The first of these envisioned only the deployment of 200 Pershing II missiles, and no cruise missiles. The other three, which ranged in size from 300 to 600 warheads, envisioned a mixed deployment of Pershing II

and GLCM in Germany, Italy, Britain, the Netherlands, and Belgium. The four options were analyzed in terms of their military and political implications. The ultimate choice was left to a meeting of the cabinet level SCC on July 3. As is now well known, this committee recommended the deployment of 572 Pershing II and GLCM spread around five countries. Of these, 108 would be Pershing II that would replace the aging Pershing I in Germany on a one-for-one basis and make use of the existing Pershing infrastructure in Germany. President Carter accepted all these recommendations and ordered David Aaron to take them to Europe.

The choice of the figure 572 has become a matter of substantial public controversy. The exact three digit of the figure seems to contrast sharply with the lack of a precise military rationale for calculating it.⁷ The choice should be seen as a two-step process. First, a decision to recommend deployments near the upper end of the HLG's 200-600 range, and second, the final selection of 572.

The reasons for the first part of the process involve an amalgam of political and military factors:

- Concerns about both Pershing II and GLCM's prelaunch survivability (PLS) and GLCM's probability to penetrate (PTP) drove U.S. decisionmakers toward the upper end of the 200-600 range. The LRTNF systems might have to survive a lengthy conventional war and perhaps nuclear attacks as well. This could give the Soviets much time and many opportunities to search for the mobile systems and, once found, to attack them, either with conventional or nuclear weapons. The more LRTNF systems NATO had and the more area over which they could roam, the more difficult it would be for the Soviets to find them all and the higher the chance that some LRTNF capability would survive and be able to carry out a selective attack of say 100-200 warheads on the Soviet Union.

⁷ As described previously, the linkage/selective employment mission associated with the systems does not permit an identification of the precise military targets slated for destruction in the event of war.

- Political considerations also played a role: The President's advisor felt that the Soviets would not be willing to accept an arms control agreement based on the principle of equality with Soviet LRTNF missiles unless the United States intended to deploy an LRTNF force somewhere near the size of the Soviet SS-20 force. In 1979, the United States estimated that the Soviets would deploy about 300 SS-20 missiles, roughly 200 of these mounting 600 warheads would be capable of striking Europe. A figure substantially below the projected SS-20 deployment of 600 warheads against Europe would give the Soviets little incentive to reach an agreement at lower and equal levels.
- Finally, U.S. officials were concerned that one or more of the European allies might fail to implement its part of the program. The higher the level of the program, the more resilient it would be to this sort of "political attrition."

Once the United States had decided to propose a deployment somewhere in the range of 600 warheads, other factors influenced the ultimate choice of force mix and size. Cost considerations dictated that only 108 Pershings should be deployed. Military and political considerations argued for spreading the remaining GLCM deployments around five countries: Militarily, basing in a large number of countries would improve prospects for survivability by increasing the area that the Soviets would have to search to find the GLCMs and would complicate Soviet defense problems by presenting them with a number of possible directions for attacks on the Soviet Union. Politically, deployment in a large number of countries would demonstrate alliance solidarity and willingness to share in the risks as well as the benefits of nuclear deterrence.⁸ The relative size the the GLCM deployments among

⁸ The list of prospective deployment countries stopped at five for the simple reason that other possibilities seemed not to exist. Norway and Denmark had long ruled out peacetime deployment of nuclear weapons on their soils. Greek-Turkish problems within NATO were already overwhelming and would only be exacerbated by the addition of the LRTNF problem. Portugal faced higher military priorities in the needed

the five countries was figured on the basis of national size and available potential bases--Britain was to have the most, Belgium and the Netherlands the least, and Germany should not have more than Italy because Germany would also have Pershing. Finally, GLCMs come in packages: the smallest unit, a flight, consists of four GLCM transporter erector-launchers (TELS), each with four missiles. For cost reasons, it made little sense to build a base for GLCM of fewer than three flights. When all these factors were put together, the United States settled on the deployment of 29 GLCM flights--3 in Belgium, 3 in the Netherlands, 7 in Germany, 7 in Italy, and 9 in the United Kingdom.

The July 3rd SCC meeting also settled three other aspects of the integrated program--the arms control proposal, the command and control arrangements for the new LRTNF, and cost sharing.

The United States decided to propose a NATO arms control policy that focused on equal limits on U.S. and Soviet land-based, long-range missile warheads in Europe (Pershing II and GLCM for the U.S.; the SS-20, -4 and -5 for the Soviets). There were a number of considerations behind this policy; at least two are worth noting. One was the U.S. interest in keeping the public's mind focused on the SS-20 missile and on the NATO lack of equivalent capability. A direct arms control link between the new LRTNF and the SS-20 would be consistent with and would buttress the emerging public rationale that the LRTNF were seen as a "counter" to the SS-20.⁹

The second consideration was that the United States wanted to keep aircraft out of the initial phases of any discussion with the Soviets of LRTNF arms control. Discussions in MBFR about limitations on nuclear

modernization of its armed forces and did not need the political complications of the LRTNF issue; in any case, Portugal was simply too far away from the Soviet Union to be within range of the PII or GLCM. Luxembourg was simply too small.

⁹ The decision to link the new LRTNF politically to the SS-20 has been heavily criticized, fairly in the author's view. The rationale for the deployment of the new LRTNF stemmed from NATO's flexible response doctrine and therefore was substantially more complicated than simply "countering the SS-20." The link to the SS-20 alone tends to undermine the other reasons for the deployment. Nevertheless, it had substantial political appeal because it was easily understood by Western publics, whereas the complex arguments about flexible response were not.

delivery aircraft had already shown that it was an exceedingly complicated issue; inclusion of aircraft in the LRTNF negotiations would make it practically impossible to envision the negotiation of an early agreement with the USSR. In addition, the Soviet Union had a substantial numerical lead over the United States in both the number of LRTNF aircraft and the warheads they could deliver because of their large force of medium bombers--the Backfire, Badger, and Blinder. Exclusion of these systems from the talks would compensate the Soviets for the exclusion of sea-based systems, especially the British and French nuclear deterrent forces.¹⁰

On the pesky issue of command and control, the United States decided to offer its allies the possibility of sharing in the control over the release of these weapons through standard NATO dual-key arrangements. These arrangements are already widespread in NATO. Under them, the United States provides a nuclear warhead, the ally procures and operates the system that would deliver the warhead (and therefore bears most of the cost burden), and both countries must authorize the release of the nuclear weapon through their own command and control channels before it is employed. However, the case for U.S. only control is a strong one: that the deterrent value of the weapons would be lowered by the appearance of a cumbersome dual-key release procedure. But the President's advisors felt that dual-key arrangements should be offered in any case. If allies felt that dual-key arrangement would help them politically, they should have them, but they should pay for them under the standard procedures. No one really expected that allies

¹⁰ This arms control position was also essentially accepted by the allies in the SG with one important exception: they argued that LRTNF arms control limitations should not apply simply to systems in Europe or capable of striking Europe. They pointed out that the SALT framework, in which the LRTNF negotiations were to be embedded, was a global framework, not a regional one. The United States accepted this point, in part because it was already ambivalent about a regional limitation. Some U.S. analysts worried that the Soviets could quickly undo the limit by shifting mobile SS-20s from East to West. They also argued that the Soviet LRTNF threat should be seen as a global threat--that Soviet ability to threaten China and Japan was also a threat to the West. And finally, they pointed out that it would be difficult to define the region in which SS-20s capable of striking Europe should be limited.

would pick up the offer and they didn't. The Germans were unwilling to be seen by the Soviets and by their neighbors as being anywhere near the command and control of weapons that could strike Soviet territory. The other allies were simply unwilling to pay the price.

The dual-key issue was related to the SCC discussion of cost-sharing. Many within the U.S. government believed that the allies should bear a substantial fraction of the cost of the PII and GLCM program, which was then estimated to be \$5.5 billion (in FY 79 dollars). They argued that Congress would require evidence that the allies were picking up a "fair share" of the tab, especially because the impetus for the program had originally come from Europe. One way to accomplish this cost sharing might be to make the LRTNF program a "NATO" program, like the NATO AWACS, and to negotiate a cost-sharing formula under which all nations would contribute a fair share. While the President's advisors were sympathetic to the arguments for broader cost sharing, they felt that such a cost-sharing arrangement would be politically impossible to work out and liable to delay the program indefinitely; the AWACS experience did not give grounds for optimism. The U.S. approach was therefore threefold: (1) to offer the allies dual-key arrangements under which they would pick up most of the cost, (2) to have the military construction of the GLCM bases covered by NATO's commonly funded infrastructure program, and (3) to ask the individual basing countries to provide security forces that would protect the new systems.

The long-established NATO Infrastructure program funds military construction projects, but not weapons procurement and operation; national contributions to the program's funds have been long established and would not need to be renegotiated. Although the overall cost of GLCM base construction and security manning was but a small part of the overall program cost, the President's advisors believed this small cost sharing program would be useful in discussions with the Congress about the LRTNF program.¹¹

¹¹ This connection of the program to the NATO infrastructure program fund has turned out to be disastrous. It has led to extensive wrangling within the NATO bureaucracy over priorities for the infrastructure fund, and has even become a subject of public debate in some allied nations.

THE PRESIDENTIAL EMISSARY--AGAIN

With the integrated program in his pocket, Aaron returned to Europe in late July to present it to Allied leaders. He was instructed to say that the President wanted to know whether Allied leaders would object to its introduction into the HLG and SG. This would give the Allied leaders a way to influence the results of the HLG and SG studies without irrevocably approving them. Aaron was also to learn how the Allies felt the political situation was likely to develop politically and what their plans were for handling it.

The first stop was London, where a new government, Mrs. Thatcher's, had replaced the Callahan labor government in May. But the basic position of the British government had not changed. Under Callahan, the British government had pushed the United States hard on the cruise missile question, contributing to the political pressure both within and with outside NATO councils that ultimately turned the United States around. Under Thatcher, the British government supported and encouraged U.S. actions to move toward a December 1979 decision and basically accepted the U.S. package without objections. Throughout the period that followed, Mrs. Thatcher's government proved to be a reliable and essential partner as the United States pushed the Alliance towards the December 1979 decision.

Although the German government was intellectually every bit as committed to the program as the British, its political situation was somewhat different. It was quite obvious that managing the debate in the Social Democratic party in the fall would not be easy. Government officials were anxious for intelligence data and other public position papers that would help them in the debate. The government wanted to be able to show Chancellor Schmidt's Social Democratic colleagues that he had exhausted all possible avenues before agreeing to the PII and GLCM deployment in Germany.

This desire focused on the SLCM, which had already been firmly rejected in the HLG discussions and had dropped from sight. But the Germans now suggested that perhaps the SLCMs should not be ruled out so firmly and should be considered as a complement to land-based

deployments. Although they accepted the arguments against the SLCM, they pointed out that it had one unique advantage: it could help get countries like Denmark and Norway more visibly engaged in the LRTNF program, perhaps by having cruise missile laden ships ply their waters and call at their ports. Given Danish and Norwegian attitudes toward nuclear weapons, this was a political nonstarter and the Germans knew it. After Aaron deployed the full range of arguments against the SLCM, the Germans quickly abandoned this scheme and agreed to the program.¹²

Although the Germans abandoned the SLCM, their increasing nervousness led them to condition their acceptance of the program in at least two important ways. The German government's condition of nonsingularity (that at least one other continental country should participate in the deployments) was well known and generally supported by the United States. But now the Germans insisted that this condition meant that the deployments should occur in all countries simultaneously, so that no country would be "singular" for even an instant. Although this condition would be financially, logistically, and programmatically impossible to meet, the United States did agree to try its best to achieve "near simultaneity so that, for example, deployment of Pershing in the FRG would occur at roughly the same time as deployment of GLCM in the UK and Italy.

The Germans also insisted that the number of GLCMs scheduled for deployment in the FRG would have to be changed, reduced by one flight. The reasons behind this request were purely political since there could

¹² To recapitulate, there were three major reasons why SLCM had been rejected. In decreasing order of their importance: First, SLCM did not meet the strategic problem, which arose because of a lack of land-based capability to strike the Soviet Union from Western Europe; NATO already had sea-based capability in the form of British and American SLBMs. The second reason dealt with cost: if SLCM were added to existing ships, the financial cost would not be so bad, but the opportunity cost would be since the SLCM mission would divert these ships from other important tasks; if separate vessels were built to carry the SLCM, the cost would be astronomical. Third, a SLCM force would not provide the same opportunities for visible Allied participation in the program that a land-based force would. American law concerning custody over nuclear weapons meant that the ships would have to be American ships, not Allied ships; Allied participation could thereby only be demonstrated through periodic port calls.

be no military, financial, or logistical reason for it. Apparently Chancellor Schmidt felt that he would be better able to defend the program within his party if he could also say that he had forced the Americans to reduce the size of the program slated for Germany. This, in fact, he did. The German request came when the size of the U.S. 572 warhead proposal was generally known. The United States feared that if it reduced the overall program size, unraveling would start; consequently, the United States was unwilling to agree to the German request. The potential impasse was resolved in early September when the British government indicated its willingness to accept one more GLCM flight.¹³

The behavior of the German government during and following the July consultations indicated the increasing political duress the German leaders felt. But it also indicated that they were preparing themselves for the ensuing political debate, which, in fact, had already started in Germany. German officials were gathering ammunition and determined to win.

While the Germans girded their loins for a major political debate, the Benelux countries seemed to hope one wouldn't happen. The Dutch government had its head buried deeply in the sand. Dutch leaders clearly hoped the issue would go away and refused to be drawn into a discussion on the contents of the program. They said they would see what the "expert" HLG finally recommended, and only then would they address the matter of the deployment program. This was a serious mistake on their part because they missed their only real chance to affect the program before it became set in concrete. But Dutch leaders were paralyzed because of their fear of the potential implications for them of a major public debate over LRTNF in Holland.

Belgian leaders were more realistic. They knew that the issue would not go away and that in the crazy world of Belgian politics, practically anything could happen, especially in the Autumn when the ruling Martens government would be trying to push through important domestic legislation that would threaten the collapse of the five-party

¹³ This was not a serious imposition because two GLCM bases had been planned in Britain in any case.

coalition government. Belgian leaders had no objections to the program, felt it was important for NATO to carry out and for Belgium to be a part of it, and said that they would handle the political situation when the time came. The later the time came the better, as far as the Belgians were concerned. Although the Americans worried that Belgian attempts to delay the public debate until the last minute might backfire, they felt that the Belgians knew how to manage their politics better than the Americans did.

Finally, the Italian government firmly endorsed the program, raising no objections to its details. To the Italian leaders, LRTNF was now purely a political matter. The issue was whether the democratic parties in Italy, especially the Socialists, would back the program. It seemed that they would, since the LRTNF issue provided a way for those parties to demonstrate their firm commitment to the Alliance and the common defense. They believed that the sharp contrast with the Communist stand would hurt the Communists politically.

For U.S. policy, the Presidential emissary's July consultations had two important consequences. First, it showed that on substantive grounds, there were no serious problems with the program and that Allied countries felt satisfied that they could stand behind the program in a public debate. The exception, of course, was The Netherlands. Second, the United States became increasingly worried about the lack of a broad public debate on the LRTNF issue in Europe and was concerned that a last minute debate could easily get out of control. Again, The Netherlands was the country that caused the most U.S. worry.¹⁴

FINAL HLG AND SG REPORTS

Both the HLG and the SG met twice in September to consider the U.S. proposals. Although they featured lengthy drafting sessions, these meetings were largely pro forma: the Aaron consultations had fulfilled a need for discussions on substance of the proposals. Therefore, the

¹⁴ As a consequence of these worries, the United States redoubled its efforts to put together public information packages that Allied governments could draw on in the expected public debate, but the United States never used the most powerful instrument at its disposal to get the debate moving--the Presidential speech.

essence of both reports largely reflected the U.S. approach that emerged from the July 5 meeting of the SCC.

The most lively discussion was in the SG. With the public debate approaching, U.S. and Allied officials knew that the nature of the NATO arms control proposals of the Soviet Union, the link between the arms control proposal and the deployment decision, and the arrangements by which the arms control discussions with the Soviets would be handled, would all become a matter of great public concern. All these issues had been on the table as SG discussions of the Objectives and Principals paper proceeded through the summer of 1979.

By September, the SG had come quite far in defining an arms control proposal. It is agreed that the objectives of any such proposal was to stop the SS-20 deployment program short of its projected level¹⁵ or to cut the deployments back if the projections were achieved, and to force the retirement of the old SS-4s and -5s. To accomplish these objectives, the SG agreed that NATO's proposal should seek equality between the United States and the USSR in the number of warheads on long-range, land-based theater missiles. It also agreed that the limits should apply to these two countries globally, not simply in "Europe." In essence, the SG had agreed to all aspects of a specific arms control proposal, except for the number of "warheads-on-launchers" that the two sides should be permitted to have.¹⁶

The link between the arms control proposal and the deployment program was a continually hidden agenda item in the special group. Throughout 1979, the United States became increasingly concerned that politically beleaguered Allies would try to opt for the "arms control first" solution. That is, they would want the United States to first advance the arms control proposal to the Soviets, then only if the arms control proposal had failed would the deployment process proceed.

¹⁵ Then projected to be somewhere near 300 launchers or 900 warheads.

¹⁶ The SG was unwilling to choose a number on the grounds that the analytic work for such a choice had not been done and that in any case, the choice of a number was bound to provoke political controversy--it would be too high for some; too low for others.

Although the United States was willing to go forward with two tracks-- a deployment decision and an arms control proposal--it was unwilling to see an arms control first sequence. It felt that such sequencing would mean that the deployments would never occur because NATO would never be able to agree later that arms control had irrevocably failed and that therefore the deployment should proceed. The United States wanted a firm deployment commitment that would be carried out automatically as soon as the systems were ready. In parallel, it was prepared to proceed with discussions about LRTNF with the Soviets in SALT III in the hopes that the overall size of the SS-20 program could be restricted and that therefore the overall size of the U.S. program could be restricted as well.

Discussion of this sensitive and central matter in the special group revolved around the first principle in the Objectives and Principals paper: that arms control should be a complement to, not a substitute for, LRTNF modernization. To the Americans, this principle meant that the Alliance could not envision an arms control solution that would "obviate the need" for LRTNF deployments. On the other side of the coin, the Americans made clear that the United States was unwilling to undertake LRTNF negotiations without LRTNF deployment commitments because there would not be sufficient bargaining leverage on the American side to obtain limitations on the SS-20. The SG was willing to go along with these U.S. views, but everyone realized that this issue would be the focus of the subsequent political debate.

The Allies were, of course, keenly interested in the matter of how they would be able to affect U.S. positions on LRTNF in SALT III. This was a matter of continual concern to the United States, which on the one hand wanted to consult with its Allies about its SALT III positions, but on the other hand, did not want to lose flexibility by being tied too firmly to consensus NATO positions. Many models of consultation were discussed. The Allies were uncomfortable with the continuation of the SALT II procedures in which Allies were simply briefed on the negotiations by senior U.S. officials or the U.S. SALT negotiators. The United States found the MBFR model abhorrent, however; in MBFR, the Allies must agree in NATO to every word in the instructions sent to

Allied negotiators. Fortunately, a solution was at hand--simply a continuation of the Special Group, with the United States in the Chair. The United States would also ultimately decide what to do, but through the special group the Allies could provide their input into the U.S. decisionmaking process, and in the special group, all Allies would agree to some overarching principles that would guide the Americans. Thus, out of the SG, the so-called NATO Special Consultative Group grew.

With the completion of the HLG and SG reports, the process of making Allied policy on LRTNF was essentially at an end. In the U.S. view, there were really only two alternatives before Allied leaders now--the policies outlined in the HLG and SG reports, or no policy at all. The United States felt that significant changes from the HLG/SG policies could not be contemplated because of the potential for a general unraveling of the consensus that had been built through the HLG and SG. As U.S. officials saw it, it was now a matter of diplomatic and public management to bring about a formal alliance decision based on the policies contained in the two reports.¹⁷

¹⁷ As a gesture of the merging of the deployment and arms control tracks, the HLG and SG held a pro forma meeting on October 1, 1979.

THE EVOLUTION OF SOVIET THEATER NUCLEAR FORCES

by Edward B. Atkeson

Soviet theater nuclear forces were a major pillar of Soviet superpower strength, rising sharply under Krushchev in the latter 1950s to their zenith under Brezhnev twenty years later. Most recently they have begun their decline under Gorbachev, and while not yet facing extinction, may be headed for a much reduced role under the new thinking in the USSR.

This paper deals with the Soviet TNF in six periods of their life:

- The Post-war Stalin Period (1945-1953)
- The Post-Stalin Period (1953-1955)
- The Transition Period (1955-1959)
- The Period of Nuclear Revolution (1960-1964)
- The Period of Modern TNF Planning (1965-1980)
- The Period of Non-nuclear Planning (1980-1987)

If one steps back to the beginning, one finds himself in the period of Stalinist military doctrine. Soviet military theory was sparse in those days. Everything was dominated by five "permanent operating factors" which the Generalissimo propagated during the Great Patriotic War for carrying the Soviet forces to victory(1):

- Stability of the Rear
- Morale of the Army

- Quantity and Quality of Divisions
- Level of Armament
- Organizing Ability of the Leadership

These happen to be five characteristics which Stalin believed to be his personal strong points, and since he was successful, it would have been difficult to argue with him -- not that anyone tried. Notably absent on this list is the matter of surprise. Stalin had experienced a severe shock with the onset of Operation Barbarossa in 1941, and was not inclined to be reminded of it. The issue was an important one, however, and became a key element in doctrinal debates later on.

During the Stalinist era there were few other thoughts permitted. If they occurred, they were not voiced. Intellectual curiosity about military affairs went into a deep freeze.

Perhaps the most important development was the concept of bombing the enemy's rear area. This was a revolutionary concept for the Soviets at the time. Unlike most of its Western partners and its principal adversary, the USSR emerged from World War II without a jet aircraft program.(2) Also, while there were many enthusiasts of Gulio Duhet's theoretical writings in the Soviet Air Force before the war, few survived the great purges of 1937 and 1938. Long range

bombing was simply not a strong specialty for the Soviets. The heavy aircraft bombardments of cities in the West in World War II was not matched by either of the contestants in the East. The Luftwaffe, like the Soviet Air Force, concentrated on close tactical support for ground forces in the East -- not deep strategic bombing.(3)

There were many reasons for the Luftwaffe's behavior. One reason for the Soviets' was Stalin's argument that he was short of aircraft engines, and while he could produce a fighter with one engine, it took four engines to produce a long range bomber.

At the close of the war, the USSR felt threatened by the West's long range bomber force. While air defense was important, and PVO Strany (Air Defense of the Homeland) was established as a separate service in 1948, many argued that the best defense against bombardment from the air was development of a counter-force which could bomb the Western bases. Doctrinally this was sound because the "stability of the rear" was a Stalinist "permanent operating factor," and bombing of the air bases offered a way to destabilize the enemy's rear.

It is important to bear in mind that at this point the Soviets had none - or very few nuclear weapons. Their bomber program was based entirely upon gravity iron bombs with

conventional warheads, carried largely by Tu-4's, copies of the American B-29 Superfortress, of which they built about 1,500,(4) and by Il-28 medium bombers. As long as they could not match the West in nuclear weapons they could not admit that the nuclear weapon was as revolutionary as it was perceived to be in the West. By no means could it be considered decisive.(5)

Also, the Soviets were rapidly learning from what they were able to salvage from East German industry that it paid to capture the enemy's economic base in tact. Consequently, their operational focus remained upon enemy forces in the field as the principal target for destruction rather than upon the industrial base. The revelations of the American strategic bombing survey, which tended to denigrate the effectiveness of the Anglo-American effort against Germany, and the Soviets' own propaganda, which denigrated every effort but their own, confirmed their instincts.

As the Soviets began to acquire nuclear weapons, they naturally looked upon their long range air force as the principal arm for delivery of the weapons. However, there was little concern in the early days about having to bomb the enemy bases before his nuclear bombers took off. Since the nuclear weapon could not be decisive, the principal requirement they recognized was the destruction of the bases as a technique for destroying the enemy air force.(6)

The following chart provides a glimpse of the Soviet nuclear program at the time, as well as an idea as to how it was perceived in the West. The first item shows the numbers of nuclear tests the Soviets undertook each year from 1949 through 1954. There were barely enough to get the programs started.

The second item reflects our estimates at the time of the numbers of weapons the Soviets probably had in 1950 and 1953. In hindsight, we now judge that we vastly overestimated their stockpile. They may not have had any deliverable weapons before 1954. It is important to note that while Stalin may have pressed hard for development of the weapons, Soviet doctrine was officially relaxed about them.

THE EARLY SOVIET NUCLEAR PROGRAM AND US PERCEPTIONS(7)

* Soviet Nuclear Tests:

1949	1	1952	2
1950	0	1953	2
1951	2	1954	2

* US Estimates and Soviet Nuclear Weapons Inventory

<u>Year</u>	<u>Estimate</u>	<u>Actual</u>
1950	10 - 20	0
1953	100 - 200	A Few (?)

Following Stalin's death, and in the power shuffle that followed, Sergei Malenkov came briefly to office. He harbored a view that nuclear weapons were inherently unmanagable. As far as he was concerned, nuclear weapons spelled out the death of armed conflict as a rational undertaking.(8) Nikita Khrushchev was quick to take advantage of this, accusing Malenkov of defeatism and doctrinal revisionism. Khrushchev argued that there was no way that nuclear weapons could do away with wars, because war and the struggle of the classes was part of the natural evolution of man. Malenkov did not understand Marx. Obviously he was unfit to rule. Khrushchev won out, and Malenkov was dispatched to Siberia to run a hydroelectric plant.

The Post-Stalin period, of course, opened the window for some new thinking about military doctrine. Stalin's oversight regarding the element of surprise was obvious to just about everybody. What was less obvious were answers to questions regarding the effectiveness of bombing economic centers and whether they were as important as targets as the enemies' armies in wartime. The discussions centered upon European economic centers, not those in the Western Hemisphere. To some degree the debate continued to be influenced by an interest in grabbing the Ruhr and other European industrial centers.

Upon sober reflection, Khrushchev formulated a doctrine with these principal components:(9)

- Nuclear war is possible
- The West can be deterred from attacking the USSR with nuclear weapons if the USSR maintains its forces in a high state of readiness
- The USSR must be prepared to fight and win a nuclear war if deterrence fails
- Nuclear weapons and guided missiles make older warheads and delivery means obsolete

By and large, the Khrushchev doctrine was considerably less offensive than that of the preceding Stalinist period.

Khrushchev was no fool. He recognized that nuclear weapons were different from gun powder by orders of magnitude. Nevertheless, he argued that Malenkov was wrong that nuclear war was impossible. The West was heavily armed with nuclear weapons, and the Eisenhower Administration seemed to place heavy emphasis on their use in case of conflict. If the Soviet Armed Forces were maintained in a high state of readiness, he reasoned, the Soviet Union might be able to deter the use of nuclear weapons and still achieve its objectives.

In his view, the USSR needed to be prepared to fight a nuclear war, and to win. The Tu-4 was followed by the Tu-16.

The Tu-16 had double the speed and double the payload of the Tu-4. Originally the speed performance factor was considered more important to provide penetrability of defended areas than it was to strike the enemy air bases in a timely fashion, but that view was soon to change.

As the military hierarchy began to emerge from the oppressive doctrinal era of Staninism, new ideas began to be heard. The view that nuclear weapons could be effective -- even decisive -- began to take root. Shortly into this transition period, Khrushchev denounced Stalin and much that he had done. That encouraged still more free-flowing debate. Combined arms operations continued to be adjudged essential, but the real impact of Western nuclear superiority was beginning to be felt and, more importantly, understood.

For the first time the Soviets were able to recognize the possibility of surprise nuclear attack for what it was: the greatest single greatest threat to the survival of the socialist state.(10) It was becoming increasingly clear that NATO was unlikely to meet its Lisbon force goals for conventional forces and that it would have to rely on nuclear weapons in its military competition with the East. The West spoke of its mission as deterrence; Moscow saw the Atlantic Alliance as a threat, particularly when West Germany gained admission.

These developments changed the Soviets' whole perception of nuclear weapons. Instead of just another weapon in the arsenal, as Khrushchev had originally argued, the nuclear weapon became the instrument of policy influence.(11) And this meant that attacks on enemy nuclear bomber bases could not be undertaken in the orderly fashion with which they had been contemplated earlier. Enemy bombers had to be struck before they took off or they would devastate the Soviet homeland. However much the Soviets might commit to the air defense of the homeland, the threat was perceived to be of such magnitude that stronger counter measures were required.(12)

Since Soviet forces were now considered vulnerable to an effective surprise nuclear attack (and one must consider that there was some talk in the United States - not least of all in the Air Force - about "preventive war"[13]) there was a corresponding argument in Soviet councils for preemptive attack to catch NATO bombers on the ground.

At about this time, the Soviets were beginning to get some TNF weapons that worked reasonably well. Notable was the SS-3, which began its initial operational capability in 1955 and 1956. This weapon could reach the West Germany, Denmark and Turkey from bases in the Soviet Union. By the end of the period the Soviets had about 100 of them. The main problem with the SS-3 was its 3 km CEP and relatively small warhead

yield. This limiting combination put the weapon outside of the envelope for optimum targeting of airfields where one needed an assurance of at least a 3psi overpressure to do much damage to the target.(14) The Soviets probably resorted to much double and triple targeting of warheads to achieve adequate assurance of target destruction.

The Soviets also had the tactical 30 km range FROG (free rocket over ground) for support of divisional operations and the SS-1 SCUD for Army and front, but the early versions of these weapons were similarly inaccurate.

A new debate arose among the services in the Soviet Union at about this time. The key question was who should operate the long range missiles. The Ground Forces, of course, viewed them as just more artillery, while the Air Forces thought that they were a natural complement to long range aviation. The Navy came in with an entirely different argument: that sea based missiles could attack both land and sea targets, virtually eclipsing the need for missiles on land.(15) (The Navy may have been thinking primarily of cruise missiles at this point.)

The number of high priority targets for Soviet attack in Europe and around the periphery of the country was growing rapidly. The US Strategic Air Command had ten major bases. There were also some 100 bases from which nuclear capable

aircraft could operate. Also, the Soviets had to take into account the possibility of eight-to-ten aircraft carrier battle groups off shore. Along with the growing number of NATO TNF systems, they had to deal with some 150-200 nuclear related targets before they could address such targets as NATO troop concentrations and the like.(16)

Khrushchev, who saw the ballistic missile as the prime weapon of its day, was determined to give it its due. He created the Strategic Rocket Forces in December 1959, settling the service issue. All of the services would have nuclear weapons in some form, but those delivered by guided missile with a range in excess of 1,000 km would fall to the SRF. It was the Soviet equivalent of the American Key West services roles and missions decision of its day. Khrushchev saw much less utility to the ground forces than his successors did and began to inflict radical cuts there and in some of the other services. From 1960 to 1965 the Armed Forces (less frontier and security troops) dropped by over a million, from 3,700,000 to 2,600,000. The Ground Forces, which bore the brunt of the reductions, dropped to less than two million.(17)

Bolstering these moves was the military view that the opening blasts in a war with the West would be delivered by strategic missiles and bombers, probably accompanied by strikes by theater systems. If there was a role for

conventional forces, it was believed, it might come into play well into the process. First priority within the theater was assigned to the destruction of NATO TNF, with second priority given to other military targets.(18)

True to their perception of the importance of nuclear surprise, the Soviets had to consider that they might not be the first to fire. The US had Thor and Jupiter base in Europe and Turkey and it had Polaris at sea. If, for any reason, the Soviets could not deliver the first blow, they had to calculate the effects of having to ride out an attack. Their missiles and aircraft were in soft configuration. The only quick alternative was to go for a launch-on-warning or launch-under-attack policy. This was a bit unnerving, considering the shaky reliability of command and control systems of the day, but they saw little alternative choice.(19)

There was a very rich debate running through all of this. Fortunately, Colonel Oleg Penkovsky kept the West abreast of much that was going on. In 1962 the first edition of Marshal Sokolovsky's book, Military Strategy was published, which added much more.

There were also saw some new systems coming into the field. In 1959 the SS-4 came on line, and two years later the SS-5. These proved to be real staples in the force mix,

many of them lasting for thirty years, when they had to be removed under the INF Treaty. By 1965 the Soviets had 733 TNF missiles in place. (The vast majority of these were SS-4s.) Most, of course, were targeted on Europe, but experts assess that some 13 percent of the targets may have lain in the Middle East and Far East.(20) The Soviets also were beginning to field the Tu-22, which didn't have much of a payload, but it had almost twice the speed of the Tu-16 and carried the AS-4 air-to-surface missile with a 285 mile range.(21)

1964 saw the departure of Khrushchev, and with it a widening of the great debate. Much of this was captured in the second and third editions of Sokolovsky's Military Strategy. The principal new thought to creep in the later editions was that the initial period of war might be undertaken by conventional forces. No one seriously thought that the battle would not escalate, but the dangerous point, from the Soviet point of view, was that it might be NATO which struck first.

The Soviets did not consider it quite as important which side struck first as which might deliver the first decisive blow. The West had many ideas about demonstrations and limited attacks, which most Soviet writers disdained. Many Soviets held that once the nuclear threshold was crossed the only reasonable thing to do was to remove most

constraints on weapons employment.(22) It was in this context that Brezhnev delivered his pledge of "no first use" of nuclear weapons.

Soviets writers argued that there was no real difference between detonating a nuclear weapon in Germany, the lowlands or France; depth of the strike was not an issue. However, they insisted it would be intolerable for a nuclear strike on the USSR while the American homeland went unscathed. They recognized little difference between theater and intercontinental war, other than the differences in types of targets and systems used. The only substantive difference they noted was that the theater nuclear exchange might be a little less dense than the intercontinental exchange.(23)

But the Soviets were becoming increasingly uncomfortable with the idea of using theater nuclear weapons - even in retaliation. Soviet military theorists prided themselves on their scientific approach to armed conflict, and nuclear weapons did not compute very well. They recognized the Western view for what it was - a notion that nuclear weapons are a bit of a wild card, capable of wrecking rational calculations of what might happen on the battlefield. Unscientific. Un-professional.

Under the leadership of some imaginative men, like Marshal Nikolai Ogarkov, Chief of the General Staff, the

Soviets developed ideas for the substitution of conventional solutions for situations which in the past had been considered in the domain of nuclear weapons. Some were operational, some technical. In the Zapad exercise in 1981 they introduced of the operational maneuver group, the OMG. Then came the vertical troop strike and the integrated fire strike, all three designed to neutralize key enemy assets at critical points in the strategic offensive operation, just the way a nuclear strike might have been used in the 1960s or 1970s.(24)

As an engineer, Ogarkov recognized opportunities in the realm of technological solutions, too. Most notable was the notion of the "reconnaissance strike complex," a Soviet version of the Western concept of deep look - deep strike with high flying reconnaissance aircraft and data link guidance to ground based fire units. The purpose being to deny NATO its avowed option of escalation when under great pressure.(25)

In addition, the Soviets carefully constructed a deterrence posture with which they might confront NATO with a greater nuclear capability at every level of theater nuclear escalation. At the first rung, in addition to the FROGs, they had 152 mm nuclear shells, first for the 2S5, which was assigned only at army and front level, and then for the 2S3, wich is found in every division artillery regiment. Whether or not they had as many warheads as NATO was moot. At the

tactical level one had to consider that every 152 mm or larger gun or howitzer was a potential nuclear weapon delivery system. Besides this, the Soviets were beginning to replace the FROGS with SS-21s, with double the range and accuracy.(26)

At the operational level the Soviets smothered the front with SCUDs, SS-12 SCALEBOARDS, and later, the SS-23s. At the theater strategic level they had the old SS-4s and 5s, plus the new, triple warheaded SS-20. On top of this they had their nuclear delivery aircraft: Su-17s and 24s, and MiG 23s and 27s. They hoped to make the prospect of theater nuclear warfare as dim for the West as it had come to seem to them.

Ogarkov railed that the very idea of launching Europe into a nuclear war was not only "insane," but "criminal." And as for notions of limited nuclear use, he described them as meant only for "simpletons." (27) As far as he was concerned, the sooner that nuclear weapons were removed from the potential battlefield the better. Perhaps if the West had paid more attention to what the Marshal was saying and doing we might not have been so surprised when the Soviets picked up the zero-zero INF proposal. While Marshal Ogarkov may have winced at the four-to-one ratio of cancellation of warheads in the arrangement, he must have applauded the beginning of the denuclearization of the battlefield.

The INF Treaty was signed on December 8, 1987. Under the terms of the agreement the US and the USSR have undertaken to destroy 2,703 missiles and 1,134 launchers by the end of June 1991. Intrusive verification procedures are agreed for an additional ten years to insure against resumed production or reactivation of banned systems.(28)

According to the inspection agencies of the two sides, each country has proceeded on schedule with its portion of the total commitment. In December 1989, US officials in Geneva reported that almost 1,900 missiles had been destroyed on both sides. This figure included all of the Soviet SS-23s and SS-12s, and all Pershing 1As. The two sides have conducted a total of almost 400 inspections of each other's facilities to verify compliance.(29) There is no reason to believe that the two sides will not complete their tasks within the prescribed period.

Without a short-range nuclear force (SNF) treaty, Soviet SS-1 Scud and SS-21 Scarab missiles, as well as FROG-7 rockets and nuclear capable artillery (152, 203 and 240 mm) will remain in the Ground Forces for the foreseeable future, as will nuclear capable aircraft in both the air armies of the Supreme High Command (VGK) and frontal aviation. The acuity of the threat posed by these forces, however, will be reduced as those presently deployed in the forward area are withdrawn to the USSR.(30)

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Concluding Remarks

REFLECTIONS ON THE FORTY YEARS' HISTORY OF TNF

Laurence Martin

The subject of this conference, the History of NATO TNF policy, is much wider than it may at first appear, for NATO TNF policy has been the heart of the whole nuclear question since shortly after it was first so dramatically posed in 1945. Admittedly the ultimate foundation of deterrence has been the overarching balance of strategic nuclear weapons between the two Superpowers. These have provided the strategic "monitor" of ultimately unacceptable damage that inspires cautious behavior at lower levels of conflict. But if the strategic weapons inculcate the caution, it has been with TNF that the opposing blocs have chiefly tried to harness nuclear weapons to particular situations and manipulate them to their advantage.

The key characteristic of nuclear weapons that distinguishes them from all others is their virtually unlimited destructive potential. Powers disposing of large strategic nuclear forces cannot readily, perhaps ever, be deprived of an ultimate capacity to do outrageous harm. If they are to be defeated, it must therefore be by outmaneuvering them so that they yield

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the essential prizes without recourse to their worst possibilities. If nuclear weapons are to be used in this process, whether actually or by latent influence on particular issues, it must be in some limited form. NATO's TNF policy constitutes the best example of this so far in nuclear history.

This ample experience is highly significant for the future, for while the European confrontation that is virtually our only experience of managing TNF seems to be rapidly subsiding, the problem of relating nuclear power to national policy has not gone away. The Cold War between East and West may be over, but nuclear weapons remain and are long likely to do so. But if we need to learn from experience, we must also recognize how limited that experience is. Not only have only a few decades passed since 1945 but nuclear confrontation has also been conducted and nuclear doctrine developed in a very Eurocentric way. Europe has long appeared the only contested stake plausibly worth the risk of nuclear war, and Europe has, perhaps but not necessarily as a result, been overwhelmingly the chief arena for deployment of TNF. This arena has also been peculiar in another significant fashion: it was a potential battlefield inhabited by allies of the United States, while even the populations of Eastern Europe were regarded much more as

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temporarily sequestered friends than as enemies. That this influenced thinking about nuclear weapons can be confirmed by recalling the quite different tone of the infrequent speculations about the role of nuclear weapons in Korea. Thus we cannot be at all sure that what have come to be accepted as truisms about targeting, collateral damage and similar topics would necessarily be translatable to different places, actions or times.

So far as Europe goes, NATO TNF policy has been overwhelmingly successful; at least it has been a central factor in an alliance and strategy that has bloodlessly vanquished a powerful adversary to the point at which we are rather embarrassed by the pace of his collapse and disintegration. It may be worthwhile briefly recalling in telegraphic form the evolution of that NATO strategy as it has been so interestingly recounted and re-examined at this conference.

So-called tactical nuclear weapons were initially introduced into NATO strategy as additional firepower in a war which was not conceived of at all as limited. It was to be World War II with nuclear additions. This was anticipated both because Soviet nuclear power was not yet sufficient to constitute an urgent case for reciprocal constraint, and because American weapons were still

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scarce and limited in yield. The appearance of more plentiful and powerful weapons led the United States to the temporary adoption of Massive Retaliation as a declared strategy, theoretically relegating conventional warfare to virtual obsolescence. Operationally increasing numbers of tactical weapons were combined with strategic weapons in a "retardation" strategy to hold up a Soviet offensive in Western Europe while the strategic bombardment of the Soviet Union proceeded.

Appreciation of the rising Soviet potential for retaliation led to the growing perception that nuclear weapons could not be used at will in this way without unacceptable consequences. Thus the familiar need for limitation and restraint first made itself felt. One response to this need was to re-explore the possibilities of conventional defense against conventional aggression. This was, however, a costly prospect and one that threatened devastation to Europe. Moreover conventional deterrence had proved historically unreliable and, in any case, the Soviet Union seemed intent on using its own nuclear weapons from the outset if it once decided on aggression. Increasingly, therefore, and ultimately formally in the strategy of flexible response adopted in 1967, TNF came to play an ambiguous role as both a contribution to a defense denying the Warsaw Pact its

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operational goals so far as possible, and as a deterrent signal of potential escalation to come. The latter role has come increasingly to the fore over the past twenty years or so as the costs of even a successful nuclear defense have become apparent to Europeans.

Many of the studies of nuclear operations that have been described during this conference make it easy to see why this trend has gathered inexorable political force. A very large number of the studies tried, in an extrapolation of the type of operational analysis familiar to armed forces so far as conventional weapons are concerned, to apply nuclear weapons to defensive battles. Almost always the result was to show the difficulty of doing so.

There have been two main sources of this failure. In the first place, the military outcome of hypothetical nuclear exchanges between NATO and the Warsaw Pact was far from encouraging. Once the relative monopolistic advantage enjoyed at the outset of the TNF age had evaporated, it ceased to appear clear that recourse to nuclear weapons would necessarily be operationally advantageous to NATO. Secondly, whatever the military outcome, the collateral consequences for the European members of NATO were daunting. Even if tactics purported

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to limit damage, the fear of error, of unintended or unforeseen escalation and, above all, of the "aggregate" effects when retaliatory Soviet nuclear responses were added into the equation, deeply scared European allies, especially the Germans. For one of the most politically embarrassing features of shorter range weapons is that the damage they could do is plainly allocated in advance to those who live nearby.

Naturally, studies of nuclear tactics and operations led to improvements in concepts and contributed to the design of more appropriate weapons. Ways were devised for achieving desirable military effects that were better both in relation to the enemy and in respect of collateral damage. But the improvements were never so great as to make material inroads into the overriding political problem. That is not to say that the studies were useless, for even if the consequences of using TNF were on balance deleterious, responsible leaders could not assume that the option to enter upon this phase of warfare was ours alone. The Soviet Union might impose theater nuclear war on us and an optimized response would not only mitigate the consequences but also constitute the best if not necessarily adequate deterrent against the contingency arising.

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Nevertheless, for a variety of reasons public opinion has become an increasingly important limitation upon nuclear strategy. The very success of deterrence in making the chance of aggression seem remote has ironically narrowed the limits within which it can be exercised. Consequently the shift has continued from reliance upon relatively widespread or sustained theater-nuclear warfare to maintain an effective defense to a much more curtailed phase of nuclear operations which, if more than a mere demonstration, would be chiefly intended to "restore deterrence" by making the enemy recalculate the risks of aggression. This has been the steady trend as the Provisional Political Guidelines of 1969 evolved into the General Political Guidelines of 1986 and have subsequently been developed in such media as WINTEX.

Mere demonstrations have continued to be rejected in favor of "military meaningfulness". A feeble gesture might indeed induce recalculation of risks but in the wrong direction, encouraging a massive nuclear response. Theater nuclear action has therefore been designed to thwart at least the enemy's immediate military objectives, compelling him to take further, costly and dangerous steps. He is to be made to pay more, even if he may still hope to win. Thus while our analyses and

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studies may suggest that particular types of nuclear operation "fail", if the criterion of success is the achievement of traditionally conceived military victory, they could still be successes in a chain of deterrent action. Moreover in the prewar situation, where deterrence is at its best, the aggressor could not wholly rely upon our pessimism about the outcome being vindicated in practice or be sure that our responses would be governed by that caution on the day .

Nonetheless studies have consistently shown the difficulty of integrating nuclear weapons into military operations. One well-identified problem has been that of initial timing. Not since the earliest days of nuclear thought have many believed that the defensive first use of nuclear weapons by NATO would be undertaken before the conventional battle had become rather desperate; yet to wait too long, until the defensive forces and the system of command and control have lost coherence, is incompatible with the increasing insistence on restraint and the achievement of intended military and political effects. Another vexed question has been that of follow-on use. This has typically posed the dilemma of pace in escalation. In this respect the much discussed divergence between the preferences of front-line and rearward allies, the former fearful of prolonged local

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action and the latter of precipitate escalation, though exaggerated, is not without a good deal of substance. Even if that dilemma did not exist, there would remain many testing questions about the optimal way to escalate: what targets engaged in what way would best serve the cause of restoring deterrence? Even those who favor only a brief interlude of theater nuclear warfare cannot simply dismiss the need to possess the option of repeated tactical operations, unless they wish to enlist wholeheartedly in the French notion of "pre-strategic" action only - a concept about which the French now waver. For on the one hand we cannot be sure in advance that we do not want to "follow-on". More to the point, the enemy will be spared much of the agonizing reappraisal we are trying to burden him with if he is certain that after our first salvo we retain only the very strategic options that the theater nuclear action was intended to avoid.

The many studies undertaken and the political discussions that have taken place have failed to resolve such questions clearly and satisfactorily. The most satisfactory answers have indeed derived their merits largely from a lack of clarity. That may indicate inadequate studies but it seems more likely that it demonstrates the intractability of the problem. In the real world, however, NATO has not been able to give up

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trying. Some nuclear capacity to act or to abstain from acting on the European theater has been essential if we were to be able to make negotiating more attractive than persisting to an aggressor. Nor, of course, have we been able to neglect the need to deter Soviet first use of theater weapons and to deprive the Soviet Union of a free hand in using the weapons we find it so difficult to adapt to our own use. Thus, without having a really satisfactory doctrine or adequate inter-allied agreement on strategy, NATO has had to maintain theater nuclear forces. For historical reasons these have probably been too large most of the time and less than ideally designed for their purpose, but the complex and varied political roles they play in peacetime and might have to serve in war have justified deploying far more than could ever prudently be used.

Despite its theoretical deficiencies, NATO's theater nuclear strategy has derived both plausibility and efficacy from the political context in which it was set. Had the supposed aggressor had a blind, all-powerful urge to attack, our flawed strategy might have been challenged and, perhaps, found wanting. What military studies of necessity omit is the fact that wars arise out of political issues and these put a limit on the risks that aggressors are usually willing to incur

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and the price they will willingly pay for success. The rewards of aggression in Europe might have been high for the Soviet Union but they were the optional ones of ambition, not the desperate ones of fear. By comparison nuclear weapons made the potential price fearsomely high. One speaker referred for instance to the role of nuclear deterrence in preserving the exposed and otherwise indefensible outpost of Berlin. The exposed nature of our position was well-characterized in Khrushchev's noted remark: "You are the ones who will have to cross a border.". But that vulnerability should not blind us to the fact that everywhere else in Europe the opposite was true. It was the Soviet Union that would have to take a positive decision for war. So long as the Soviet Union and its position in Eastern Europe were not threatened by NATO behavior, it was perhaps less difficult than we sometimes feared to maintain a balance of risks that would deter adventurism. In that respect we have been fortunate in our adversary, for Bolshevik political philosophy puts a high value on avoiding being drawn even by provocation into adventures, while Russian military tradition favored offensive action only when the balance of forces offered a high probability of success.

Theater nuclear weapons have proved a very useful tool in raising both the credibility of nuclear action by

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NATO and the operational risks that Soviet forces would consequently face. Equally, the options provided by theater weapons served to reconcile American and European preferences with regard to the pace of escalation. A complicating factor, however, was the fact that to a large extent the weapons available for these essentially psycho-political purposes had been developed and deployed for the very different contingency of "war-fighting" with nuclear weapons; that is to say, for conducting relatively prolonged nuclear operations as part of a victory-denying defensive war. Some of these weapons were never optimal for any purpose but certainly many of them were ill-adapted for the flexible-response in its later evolutionary states. Ironically the INF so quickly deployed and withdrawn were perhaps the first theater weapons specifically and well-adapted to serving the PPG.

At the moment it is unclear what if any theater nuclear strategy NATO will survive, though prudence surely argues against the precipitate abandonment of such a useful and hard-won strategic posture. But if the trend to "fewer and deeper" persists, then one question to answer is whether theater nuclear weapons as we have known them remain necessary? Could their tasks not be performed by "strategic" or long-range weapons, in a manner analogous to the "limited strategic options"

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developed in the 'seventies under the auspices of Secretary of Defense James Schlesinger, but with different targeting?

This issue deserves debate; the political and military strategy associated with the use of nuclear weapons devoted to the European theater need not necessarily be implemented by the familiar theater weapons, a category originally developed for "war-fighting", operational uses. Such a debate would, however, have to take account of the symbolic value of local basing as an earnest of dedication to European interests and recognize that to dismantle an accepted posture might convey a more powerful message than intended to both friend and foe. Moreover the locally based weapons have made it possible to associate non-nuclear allies with nuclear operations. The unhappy episode of the MLF demonstrated the difficulty of achieving the same effect with strategic systems and the political climate today for such innovations is infinitely more hostile.

The gradual constriction of theater nuclear concepts to "fewer and deeper" has led some to perceive a convergence of NATO strategy with the French notion of medium-range weapons as "pre-strategic". While it is

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true that NATO has abandoned a prolonged phase of theater nuclear operations as a preferred option, it is not yet excluded it to the extent that French doctrine suggests, though it is true that many of the French no longer insist on there being only a single warning salvo with an immediate and inevitable sequel of strategic action if the enemy persists. It is often forgotten, however, that even if the strategies were identical, the occasion to implement it is different. French weapons are to be used when France is endangered, not the Alliance as a whole, though it is true there has been a tentative geographical widening of the French notion of where their security begins.

At the May 1990 NATO Summit in London, the leaders of the Alliance did give some impression of going further in the French direction by describing nuclear weapons as those of "last resort". In doing this they were responding both to their own public opinion, particularly that of Germany, and to Soviet pressure to extract such price as they could for quitting East Germany. NATO may come to regard this rhetoric as both unnecessary and dangerous. There is, of course, still a chance to treat the phrase as truistic rhetoric. In a sense NATO has always treated nuclear weapons as a last resort; certainly the flexible response envisaged trying other

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methods before going nuclear. If, however, the phrase came to signal a shift virtually destroying the distinction between the theater and the strategic phases of nuclear war, it would be a reversal of decades of hard-won strategic compromise and throw up into stark clarity many of the choices NATO has found it wiser to blur.

If the value of studies of theater nuclear operations has been somewhat negative in direct terms, by demonstrating the difficulties far more convincingly than the solutions, there have been some positive pay-offs of an indirect nature. The whole array of studies, particularly after they began to feed into the Nuclear Planning Group, has done much to bolster mutual trust and confidence between allies. While this has undoubtedly been true at the official level, leaked and authorized accounts of the studies have sometimes had a disturbing effect on Western public opinion. Against this can be set the deterrent effect on the Soviet Union of observing NATO devoting so much care and attention to the subject. The very intensity of NATO agonizing over theater nuclear questions must have reinforced the effect of NATO procurement and deployment in reducing to vanishing point any Soviet hope that the whole of NATO nuclear strategy was a mere bluff.

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Much of this brief paper has had to be written in the past tense where only a few months ago the present indicative would still have been appropriate. The immense changes that have occurred in the Warsaw Pact now compel us to ask how much of what we have learnt and done about theater nuclear weapons in the last forty years remains valid? Doubt hovers over even the survival of the Soviet Union as a state. Should it disintegrate the probable result would be considerable political turbulence and possible armed conflict between the successor states. What that would mean for the security of Western Europe is impossible to predict.

We cannot yet rule out the possibility of the survival of the Soviet Union and its resurgence as a significant military power. At the moment it still possesses the material attributes of such a power, and nowhere more so than in the nuclear field. The accepted wisdom is that NATO should consequently be preserved but put its forces increasingly on to a stand-by or regenerative basis. Transition to this new status should take a few years, paralleling the retreat of the Soviet Union and the reduction of its forces as agreed in current negotiations. Subsequent negotiations are already envisaged to address the theater nuclear question. Increasingly, however, the Soviet Union's pace

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of collapse and retreat outstrips that of the negotiations.

Insofar as a continued apparatus of deterrence and defence still involving the United States directly in European security seems advisable, there is a powerful case for such an alliance to retain at its core a nuclear strategy organized around theater nuclear weapons. This is so not merely to serve the traditional role, albeit in changed circumstances and on a reduced scale, of shoring up the panoply of defense in a flexible response, but also to perpetuate the achievement of the flexible response in making war the unattractive, indeed virtually "unthinkable" option it has become in post-war Europe. Thus while many of the calculations about reconstitution, regeneration, reinforcement and mobilization should still be performed, a continued nuclear deterrent can render the process much less tense and, indeed, less important than it would otherwise be. In a most interesting way Soviet strategic thought is itself rapidly coming round to see the virtues of nuclear deterrence in general and of theater nuclear weapons in particular. This was no more than to be expected perhaps of a power precipitately losing its defensive glacis in Eastern Europe and its long-held preponderance in conventional weapons.

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This is not the place to develop at length the case for believing in the continued need for deterrence and for a role for theater nuclear weapons within it. If the case is accepted however, a look back at the history of theater nuclear weapons such as we have enjoyed at this conference suggests a number of questions deserving further attention.

Right across the board of military reappraisal the opportunity to reduce forces offered by detente and the political need to do so to assuage the popular perception of greatly reduced danger are combining with professional appreciation of the continued need for defenses to popularize reliance on reserves and reconstitution. Whatever may prove politically possible, it is analytically essential not to confuse what the changed political situation justifies in strategic terms with what is convenient in terms of domestic politics. Nor should it be simply assumed that if withdrawal and reconstitution is the appropriate recipe for expensive and conspicuous conventional forces, the recipe is also best for nuclear weapons. It might be that by their nature nuclear forces are the ideal "ready force", whose presence makes unenticing the exploitation of weaknesses in the framework of mobilization and reinforcement, processes notoriously vulnerable to political indecision.

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We must realize that, in the worst case scenario of renewed Soviet hostility and military actions, the first use of Soviet TNF might appear the most reliable way to forestall a NATO reconstitution strategy. If such a tactic was thought capable of winning a decisive local victory how effective a deterrent would be the fear of strategic retaliation from a NATO that had neglected its theater forces?

Theater nuclear forces radically reduced in number, as both the trend in doctrine and the unquestionably reduced threat suggest, could be a relatively economical and physically unintrusive component of the U.S. contribution to a reshaped NATO. Such a force could presumably form the Western part of a negotiated NATO-Soviet arms control agreement on TNF. Given the political sensitivity of European opinion to nuclear weapons, especially in Germany, it is, of course, far from clear that physical unobtrusiveness would equate to political tolerability, so the chances of taking the course implied here are by no means good. It is to be hoped, however, that options are not closed off precipitately and it may be worth paying a price in delaying making the right decisions to avoid the cost of making the wrong ones.

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The task of preserving or, perhaps more accurately and more dauntingly, rebuilding public support for theater nuclear strategy has not been helped by the double-zero agreement which negotiated away weapons only just vehemently advocated as essential and particularly well-suited to serve the revised doctrine evolved precisely to defuse political opposition. The abandonment of the most modern weapons has bred an understandable belief in many quarters that if they were dispensable so must all the others be. There are good political and military cases to be made for short-range surface-to-surface missiles and even, perhaps for nuclear artillery. The political argument has very probably been lost, however, and the burden of local, dedicated basing may fall entirely on aircraft. These, whether or not supplemented by a new tactical missile, may open up new inter-allied controversies about risk-sharing. They would certainly do so if the FRG were to refuse to participate in basing.

Insofar as an all-aircraft force were to be made the basis for a narrower concept of targeting, additional stresses might be placed on inter-allied relations and further inroads made into the efficacy of theater nuclear weapons as a deterrent. The flight from "damage-allocation" referred to earlier - that is, from

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the fear that short-range weapons are clearly capable of doing damage only close to and perhaps on friendly territory - formed part of the case for INF, especially once feelings about Eastern Europe became not much less tender than those about NATO territory itself. It was this feature of studies of "war-fighting" that occasioned the most political trouble for TNF.

Aircraft have the advantage that they can be used at long range. The fact that they can also be used at short range somewhat assuages the anxiety of those strategists who fear that, on the one hand, confinement to long-range attacks alone would free an aggressor of many operational anxieties - about concentration, for example - and, on the other, that the corollary of launching initial attacks on Soviet territory could arouse all the inhibitions about escalation that made theater nuclear weapons appear a valuable alternative to strategic weapons in the first place. But clearly doctrine could produce a good many of these disadvantages even though aircraft have the physical potential for more variegated action. Careful thought thus needs to be given to what a theater nuclear strategy is intended to achieve and thus to the fitness of weapons to serve the purpose. Admittedly, politics may prevent some of the lessons derived from being applied, but at least the strategic

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community should understand the issues. It is to be hoped that as a result even political leaders deciding upon broader grounds will better comprehend the trade-offs being made.

The introduction to this paper remarked that the bulk of our experience and our speculation about theater nuclear weapons had been Eurocentric. As befits the theme of this conference the bulk of the paper has been equally restricted. It may be worth ending with one or two thoughts about the implications of theater nuclear weapons on a wider stage.

In the NATO context nuclear weapons have been increasingly explicitly dedicated to making war "unthinkable". This task has been facilitated by the highly controlled nature of the adversaries and the relative manageability of the issues between them which, while vital, have rarely seemed open to satisfactory resolution for either side by use of force. Both sides built up a deterrent balance relatively symmetrically; not, admittedly, in the form of wholly comparable forces, but in the sense of a transparent sufficiency to thwart each other's less costly options. Finally, the nuclear power most dependent on nuclear weapons to manage the regional balance, the United States, was the close friend

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of the nations on the political battlefield, and on balance benignly disposed even to the opposing members of the Warsaw Pact situated just across the front line. Moreover the strategic role of NATO's TNF was strictly defensive. In this context the possibility of actually using TNF came to appear increasingly unlikely and many began to regard them as virtually unusable.

To rehearse these characteristics is to make it obvious that they do not and will not apply universally. We should perhaps begin to think rather harder about the long-term and universal role of the shorter range, manageable nuclear weapons that have been developed in the NATO context as a special "theater" category within a complex overall balance of deterrence between Superpowers. Will TNF necessarily be regarded as unusable for all time and places? What of the United States versus other adversaries around the world if, for instance, they possessed nuclear forces of their own and were suspected of recklessness? What of other nuclear powers versus nuclear or non-nuclear enemies? What if TNF were evaluated by such powers as offensive instruments? For many years the Soviet Union espoused precisely such use even in the face of a powerful nuclear adversary. In a more volatile political context than the Europe of the Cold War and balancing blocs offensive

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nuclear action might well come to seem a practicable course. The possibility of new nuclear states, perhaps "crazy" ones, also raises questions as to whether "deterrence" offers an adequate counter-strategy in all circumstances or whether active defenses or pre-emption should be taken more seriously. These choices may face both local powers and any of the major powers, particularly the United States, who may aspire to a stabilizing global role.

All of these questions are difficult, cannot be answered now and may never pose themselves in such a form. They do, however, deserve earnest thought. The overriding point to bear in mind is that the Cold War may be over, the TNF problem in NATO that we have wrestled with so long may be resolved and is certainly transformed, but nuclear weapons remain. Plenty of them survive in Europe; many also already exist elsewhere and more could easily appear. In solving our security problem vis à vis the Soviet Union we incidentally developed answers to the nuclear danger as it chiefly manifested itself in the first four or five decades of nuclear history. Our first priority must still be to preserve a stable framework in Europe. For the rest of the world our main strategy so far has been that of non-proliferation. That effort doubtless will and should

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be sustained. But we shall also have to consider whether the European formula of a nuclear balance of power will have to be extrapolated elsewhere and, if so, whether the interests of the United States require it to extend the pivotal role it has shouldered in Europe.

If this should prove to be the course of the future, then the task of relating the nuclear balance to particular issues and specific conflicts is very likely to bring us back to study the role for dedicated, locally-based weapons; that is, for TNF. The studies of the past may have been flawed and were certainly often depressing. They have, however, left us incomparably better able to understand the issues than at the outset of the nuclear age. The prospects for permanent and universal peace are far from good enough to justify our forgetting the hard-won insights of our forty year's inquiry and debate.

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